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तदेव शुक्तं भैषज्यं यदारोग्याय कत्यते। ' सचैव भिषजां श्रेष्ठो रोगेभ्यो यः प्रमोचयेत्। चरकसंस्थिता।

That alone is the right medicine which can remove disease:

He alone is the true physician who can restore health.

Charaka Sanhitá.

EDITED BY
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"SCHISM!"

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Fellows and Members of the British Homeopathic Society, Ladies and Gentlmen.—My first and pleasing duty is to express my appreciation of your kindness in calling me to the office of President of the British Homeopathic Society. Not only do I desire to excess my personal feelings in regard to this honour, but also to recognize it as a honour to the provincial members of this Society. Though it most true that on our esteemed metropolitan colleagues rest he main burden of the work, nevertheless, our country friends have often, under great difficulties and self-denial, to present themselves at these meetings, and seek to do their share in sustaining the interests of our Society.

Being then by your goodwill installed, I humbly offer my thanks, determined to do everything I can to maintain our honourable traditions, and promote the usefulness and good order of our Society, trusting at all times to your loyal and kindly support. Death has during the last year again robbed us of several of our members, and I have sadly to record the

names of Dr. Herbert Nankivell, Dr. Harper, Dr. Bennet, Dr. Mitchell, and Dr. Brookes, of Nottingham, as having passed away. Dr. Nankivell was the only one of these intimately known to me, and for him I entertained the heartiest esteem and affection. A King's College man, a distinguished student, a sweet and attractive personality, a stalwart homeopath, a successful practitioner, an industrious member and honoured President of this Society, as well as our Congressional President at Norwich, we all miss his genial presence, and revere his memory. As Dr. Byres Moir well said: "He was one who bore the brunt of the battle for us in the past, when it was a much harder matter to take a stand for homeopathy than at the present time, but his sincerity and earnestness carried conviction to all who knew him."

I am standing before you as another of your provincial Presidents, looking back on a good many years of practice, and am going to ask your indulgence while I venture on some retrospection of medicine.

A year or two ago, I took the opportunity of putting a copy of Dr. C. Wheeler's book, "Knaves or Fools, into the hands of several of the leading practitioners of the city in which I live. One of them returned the book with the following note:—

. "DEAR DR. ROCHE—I am very much obliged to you for having given me the opportunity of reading this book. It is very well written. I have gone from cover to cover. I must confess that it does not prove to my satisfaction the necessity of our fighting against disease under different flags. Why should we not discountenance Schism, and use the best of every description for our patients? Because I am keen in the vaccine treatment of various conditions, must I divide myself from the bulk of my confiders?

"Yours faithfully, .

My answer was to this effect-

"DEAR DR.—There is no reason why you should divide your-self from the bulk of your confrères because you are keen on

vaccine treatment of various conditions. Your duty is to do the best you know for your patients, and I should expect you to do so. But if you had lived and practised a century ago, in the conditions to treatment then obtaining, and had then the firm conviction from experience of the truth of vaccine treatment, I have sufficient faith in your fidelity to your convictions to believe that you would not have allowed any one to prevent you from using it, justifying and acknowledging your faith; and if in consequence you had been cast out by those who held what they considered orthodox opinions, while they called your vaccine treatment ignorant and criminal folly, you could never truthfully have been charged with 'Schism.'

"Yours faithfully,

It will then be noticed that "Schism," and not knavery and folly, is the office set forth, and it is because I believe this is the main charge nowadays upheld, that I have thus introduced it to demonstrate the truth or falsity of the charge that we, by practising homeopathy, have become schismatics. What are the facts? As illustrating the truth, may I indulge for a while in peasonal history? My father was born in Cork, in 1815, and serving an apprenticeship, he studied medicine there, as also in Dublin and Glasgow, where he graduated as Doctor of Medicine. On his marriage in 1838, he settled in Cork, where he lectured on midwifery in the Cork School of Medicine. Family circumstances caused his removal to Liverpool in 1841, where he became one of the promoters of the Lying-in Hospital, and one of its first medical officers. It was in that city, at the time of my birth, during the awful epidemic of cholera, that he first saw the results of homeopathic treatment. ferring to this epidemic in a paper " How I became a Homœopath" in the Monthly Homeopathic Review, Dr. Norton says "The people died so fast at the temporary hospital which was erected where St. George's Hall now stands, that they strove in mobs to get hold of the doctors to tear them to pieces, from the notion that they were poisoning their patients wholesale. The

victims were carried out at night that the people might not know the number of deaths, and were buried in open pits in quick lime, being transferred to the churchyard as soon as night came on after their death. The medical treatment varied according to the different theories held by different medical men, some giving calomel and opium, others brandy and laudanum. The cases for the most part occurred amongst the poor, and those addicted to drink. Most of them were cases of cholera asphyxia—the blue body, the choleraic expression of face, the nose pinched, the whispering voice, an almost brutish insensibility and indifference, are still vividly remembered by the writer." The mortality in this epidemic was very great. It was in the temporary wooden sheds put up near the docks, and carried on as cholera shelters for these serious cases by the homeopaths of Liverpool, using the remedies indicated by the symptoms, and years before selected by Hahnemann according to the law of similars, that my father saw such remarkable results as deeply impressed his mind, and led him after careful observation and inquiry to adopt such practice as his own. is a matter of simple history which can be clearly substantiated from the current literature how he and others, well educated men, were put outside the pale of professional intercourse, and at the Medical Society a resolution for their boycott was carried by a large majority. Let it be recorded, however, in all fairness that there were honourable men forming the minority, who while disclaiming any belief in homeopathy, yet refuse to join in casting out men whose offence was that they had formed an opinion on what they saw, differing from others, and determined to use those means for their patients' good, which they believed, and proved to be more effectual than those which, in common with others, they had used before. Professional fellowship was refused by a majority who voted approvingly for the motion of the man who described homeopathy as a hydra-headed monster that had swelled out into huge proportions, like a tall bully lifted its head and lied-homeopathy, mesmerism, and hydropathy crawling creatures, all hatched out of the same slime, and all belonged to low forms of organization. Homosopathists had no business in the Institution: he thought its motto ought to be "No admittance except on business." Nuisances, humbugs, and charlataus—homosoquackery,—the subject was a very stinking one, and more so, that the more they stirred it the worse it was. This was the language that was used towards men like Drysdale, Moore, and my father, and their only crime was, that being intelligent and well educated men, they were exercising their proper liberty in the light of inquiry and experience, in spite of all the pressure of bitter ostracism and trade unionism, to carry into practice what they conscientiously believed. Where lay the "Schism"?

In loving memory of a most capable, gifted, and conscientious man whom I deeply esteem, I would record the words in which Dr. Drysdale replied in the presence of all this heat and vituperation. He said: "I cannot admit that any vote that can be taken to-night will be on the merits of homeopathy. has not been examined in a way to give any right to a decision. Therefore, the whole proceedings on the side of this movement could only exist by begging the question, and if that was the case it reduced it to the naked meaning-that no one could retain his membership who held opinions not shared by twothirds of the Society. That was virtually the result of the principle if pushed consistently; and if not, and merely limited to this particular case, it was a very unfair wresting of the laws to party spirited persecution of one method, or directed against individual." Dr. Vose had well said that this was a question in which the respectability and honour of the Society were at He quite agreed to that, and thought that if a decision in favour of the motion was come to, it would brand the Society with indeliable disgrace, and add one more example to the narrow and persecuting spirit in which new principles were received in past ages. Whereas on the contrary, even if the theory he advocated was not true, in the end the Society would well deserve credit for giving fair play; and if it was true, as he was fully assured, it would reflect immortal honour on them

for giving a fair reception at a time when their prejudices were so strong against its truth and probability. With respect to the manner in which the debate had been conducted he did not object. On a subject, so important men ought to hold strong opinions, and had a right to strong language, as long as they kept to the abstract nature of the question. For example, he considered that to treat disease by giving medicines of whose action on the healthy body we were ignorant, and to mix up these together, was so opposed to all rational principle that in the heat of discussion he might apply the term "quackery" to such a mode; and on the other hand, their principles might appear so improbable, and the dose so unlikely to have any effect. that an opponent might consider it "quackery" to attempt to cure disease in such a manner. But if he were to pass from abstract principles, and to single out any individual and call him a quack for practising the ordinary allopathic method, he would sin against all the laws of propriety, and deservedly be called to account in that meeting, and before, the laws even, for libel and defamation of character. In like manner the abstract question might be discussed with freedom, but for anyone using such terms to them individually they claimed a like The only plausible argument in favour of the motion was to the effect that they were mere sectarians who were bound by certain dogmas, and by a restricted creed, that confined them to a definite course which they were obliged to follow. That he emphatically denied. He admitted that if that were the case it would be an ample reason for expulsion from any properly constituted scientific society, because it would be the very course which the supporters of the motion wished to push the Society into. But homeopathists had no dogma or creed that must be believed in and followed independent of its proofs derived from observation and experience alone-not only the past but future. experience; and homeopathy, not being held as a dogma, he admitted that that place might be modified by future experiences. As an instance of the effect that future discoveries might have in determining the exact place to be held in medicine by the homeopathic principle, he noticed the treatment of entozoa. Formerly the origin of these parasites was enveloped in the most profound obscurity, and it was not known whether they were in reality products of diseased actions and to be treated as diseases properly so called, or mere foreign bodies which had obtained entrance into a person, otherwise either healthy or diseased. It was now known that they were not diseases properly so called in any sense of the word, and. therefore, when it was necessary to expel them, it must be done in the same way as any other body-by the means that are principally used for that purpose in common practice—though for any disorder accompanying their presence the specific medicine was still to be used as before. This being the case, and homeopathy being legitimately introduced-and legitimately practised—if they were to condemn it by any a priori resolution, he asked on what possible grounds could any new theory ever obtain admission into medicine? The homoeopathic principle, if true, was of such vast importance that it must necessarily supersede the large majority of other means of cure. must be understood that if in such a vast number of instances he used it, it was on the ground of its being better than others. and not because he felt bound to it by any sectarian dogma.

In 1841, when first he came to Liverpool, he had just come from Germany where he had made the acquaintance of men of character, in every way estimable, and by them had been induced to examine the subject and became convinced of the truth of the principle. On coming home again he could not in common honesty fail to testify to the honour of these men nor conceal his own convictions, otherwise he would have been a false, witness and a liar. As the case now stood if these resolutions were carried he could only get into the Society on those terms. Fortunately, when he was elected, the cause of common sense was in the ascendant, and he was admitted whilst openly expressing his convictions; and he trusted that the Society would not now belie their character, and even put matters to such an issue that honest men could be kept out,

whilst by a sacrifice of principle they might be admitted. "I cannot conclude," said Dr. Drysdale, "without bearing testimony to noble spirit that has been shown by those who have spoken on the liberal side, and which I trust will be shared by a large number in their votes. Though I naturally regret that those men do not share our way of thinking in medicine, still as the delay of a few years in the general adoption of truths, which will last all time, is comparatively of small importance, I can almost rejoice that their prepossession against our doctrine is so strong (and I doubt not sincere), because it exhibits in a clear light the purity of the motives by which they are actuated, and will show to the world that there is in Liverpool a large number of medical men sufficiently enlightened to make sacrifices in the assertion of the great principle of the freedom of opinion."

Years passed during which the varying circumstances led my father to practice in Norwich, and me to enter as a student of medicine at King's College, London.

I hope I shall not be misunderstood when I mention that having obtained Certificates of Honour in Anatomy and Chemistry in my first year, in due time I received the College prizes for Surgery, Clinical Sugery, and Obstetric Medicine. After qualifying in Medicine, Surgery, and Midwifery, I held the posts of House Surgeon and Surgical Registrar in the Hospital, and finally Senior Demonstrator of Anatomy in the first year of my friend Dr. Curnow's professorship in the These facts are mentioned here as indicating a considerable practical experience, and a good standing and average ability amongst my fellow students, who certainly did not regard me as a knave or a fool. After this I desired to get settled in practice. The belief I had in medicines was very small. Expectancy had largely superseded the polypharmacy of the ealier decades, and the old bleeding, purging and salivation were things quite forgotten. Various phases and fashions had. through the fifty or sixty years, stood as the changing orthodoxy of the profession, and now with little faith, expectancy

was in the ascendant. Any length of time spent over the taking of a case, and diagnosis, and then scant interest in the prescription, which frequently was forgotten, or consisted of a placebo of sugar-water with the enlightening names, Mistura flava, Mistura cerulea, or Mistura rubra. Vigorous warfare went on in the schools over theories of disease, and these theories determined the character of any medicines to be administered. Take just the instance of cholera. An epidemic had occurred in 1866. Sir George Johnson, in my College (then Dr. Johnson), had strenously taught that the purging was an effort of the system to free itself of poison, and as a result of this theory gave castor oil. At Guy's Hospital, exactly the opposite theory was held. The patients died through the excessive effects of purging, and as a result the medicine was opium. To these absolutely opposite and mutually exclusive "orthodoxies" might be added a number of others. At Bartholomew's the thickened condition of the blood was most regarded, hence the treatment was saline intravenous injections. Men with Indian experience discounted these theories as useless, and proclaimed repeated doses of calomel as the only hope; while the expectant school, following on the basis of Todd's teachings. let medicine alone, and trusted to warmth and stimulants. was, however, a subjet of remark also at that time, that evidence had been given that treatment conducted on a system called homocopathic, had amidst these confusing and conflicting theories, claimed to attain results much superior to any of them. It was also in the air that parliamentary proof was demanded and given, and the Government Inspector certified, "That there may be no misappprehension about the cases that I saw in the Homocopathic Hospital, I will add, that all I saw were cases of true cholera in the various stages of disease; and that I saw several which did well under the treatment, which I have no hesitation in saying would have sunk under any other treatment." Independent evidence this!

Homeopathy was in the air, and was spreading amongst the people, while there could be authenticated a list of thirty-two

professors in European universities or faculties of medicine who practised or supported homeopathy.

Such was the medical environment at the time I sought to enter practice. I was strongly recommended to well-qualified man as partner, in a London suburb, and went down to present myself and make his acquaintance. For two days I went round with him seeing the run of his cases, and forming a good opinion of his ability. He seemed satisfied with me, and knowing that my father was a believer in homeopathy, he asked me several times as we left a case, "Well, what would the homocopaths do for that?" I could only return him the truthful answer, "I don't kow anything about it." Presently he surprised me by saying, "I think you have lost a great opportunity." During these days our conversation was naturally constant and discursive. I discovered that my host was a pronounced atheist, and I made no secret of my faith and hope. His friends were Professors Huxley and Clifford, and as we talked it became mutually clear that though professionally we had much in common between us, there was a wide gulf. Finally we faced each other. "Do you really believe in a personal devil?" he asked. "Yes," I replied, "I have the same evidence for a personal devil as I have for a personal Christ, the inspired World of God." "A bundle of obscene trash," he replied, and needless: to say I soon took my leave. But when I had left, the words, "I think you have lost a great opportunity" seemed to repeat themselves. For the first time my unfair and unscientific position flashed upon me. My indifference to my father's status, which of course I knew, while he had at much sacrifice done all he could for me, still leaving me perfectly free to take my own course. My passive rejection and tacit denial of a matter of which I confessedly knew nothing. and had never made inquiry. With little or no faith in medicine myself I had never asked myself what I knew of my father's practice and faith, which I was ignorantly rejecting in common with the general profession. I determined that I would take action in the matter, and be able to give some satis-

factory reasons for my rejection after honest investigation; for a justified rejection was my only thought. What was to be the modus operandi? Well, I must seek the most capable exponent I could find, and then make my inquiries and observations with a perfectly free mind. After due consideration I decided to apply to Dr. Gibbs Blake of Birmingham, who I knew was a distinguished student, and had taken the scholarship in medicine at the London University, and was then physician to the Birmingham Homœopathic Hospital, where Dr. Thomas was Surgeon. I wrote to Dr. Gibbs Blake saying that I was anxious to investigate homocopathy, and asking if I might come and see all that was being done. I received prompt and cordial reply offering me the fullest opportunity, and placing a room in the hospital at my disposal. I thanked him for his kindness in meeting my wishes, and accepted the offer of full inquiry, but preferring to maintain a perfectly independent position declined the offer as to living in the hospital. I can only record my great undebtedness to both Dr. Gibbs Blake and Dr. Thomas, with Dr. Madden, a former fellow student at King's, all now passed away from us. For nearly six months I worked hard in every way to gather all the evidence I could, but dealing almost entirely with chrome cases. 1-found myself gradually more and more convinced of the skill and bona-fides of the practitioners, and also that in many cases there was manifestly a result from the treatment. My indifference and prejudice were gone, and my interest was growing. I must see what this treatment could do in the rough and tumble of acute disease. I therefore left Birmingham and went to Liverpool, the city of my father's conversion, and my birth. Here I had the very great advantage of being taken very warmly in hand by my friend Dr. Alfred Hawkes, a most conscientious and enthusiastic worker, and I saw acute disease in plenty and variety. I saw that the treatment was more definite and successful than any I had known in my experience. When I had become fully convinced and converted, I was glad 30 accept the post of Resident in the Hartmann Street Dispensary, and for more than a year carried on the work myself with steadily increasing satisfaction. I had the privilege of the friendship of Drs. Drysdale, Hayward, Proctor, Burnett and other friends, and the constant companionship and hospitality of my excellent and much esteemed colleague, Dr. Hawkes. So here I found myself, professionally just the man I was, but plus a very considerable experience in active medical practice, with a knowledge of, and faith in, a goodly number of medicines, and a full conviction of the truth of the method which enabled me to select and use them. Nothing but a full confession of my faith was possible for me, and most certainly the avowed practice of what I had learned for the benefit of my patients. Was not this the claim and object of every true and honourable physician? What else could I do?

But I had now to realize what this meant. I had perforce to take my place with those who, for their faith honestly avowed. were ostracized, maligned, and persecuted by the mass of a so-called liberal profession, to which I legally and heartily be-Societies, appointments, professional fellowship and goodwill, harred, a position of separation was thrust upon me, while the cry of fool, knave, and charlatan, was in full blast. In Norwich and elsewhere, inquests were not only threatened. but actually held on cases dying under homocopathic treatment. My father had been subjected in that city to the same unworthy treatment, and when he took up his residence in the street where I have ever since lived, astonishment was expressed that such a person should have the effrontery to come amongst his medical neighbours. Then the mode was to represent that homocopathic practitioners were not proper doctors, but deluded and irregular quacks; and nurses, chemists, and others trained in these ideas. resisted in carrying on this bitter medical trades unionism. Such was my environment when I went to Norwich. history of the past which presented itself to me as I read, you know, gentlemen, as well as I do: history only repeating itself. In Hahpemann, a man of wide and numerous attainments, of acute observation and original ideas, well known in medical

circles as an accomplished physician, the announcing of faith in a guiding principle in medicine drew on him all the wrathful vials of orthodoxy. This orthodoxy was a practice, in the main, most dangerous and unsatisfactory. As matters stood then, it was simply and sadly true that more deaths occurred than would have taken place had the mass of the sick been left to unaided Nature.

Hahnemann lived much before his time. He tried to attain something better. He could but condemn the gross method, which he dare not practise, and as soon as he declared himself ventured to demonstrate the better way, and took a stand for truth, the storm arose, persecution and expulsion began, with vile abuse and untruthful statements. No stone was left unturned to injure and distress this honest and far-sighted man. Hunted and harried, if in the consciousness of the truth of his discovery, the rectitude of his position, the mischievous treatment of the sick and insane, and smarting beneath the gross unfairness of his treatment, Hahnemann launched out in vigorous fashion, his attacks were richly deserved. He was a learned, honest man, and no schismatic, but was forced into separation by those who were not worthy to be named in the same day as this courageous exponent of truth.

The great Hufeland, in whose journal Hahnemann published most of his early writings, and who was himself the most influential writer on medicine of that day, said, "I consider it wrong and unworthy of science to treat the new doctrine with ridicule and contempt. It is in my nature to lend helping hand to the persecuted. Persecution and tyranny in scientific matters are especially repugnant to me. In addition, there was the esteem which for many years I have entertained for the discoverer, and which I owed him for his former writings, and his important services to the medical art"

Dr. Hennicke, editor of the Allgemeiner Anzeiger der Deutschen in 1825, said, "The Editor had in 1792 the honour of making the acquaintance of this man distinguished by his rare acumen, his powers of observation, his clear judgment, as well as by his

originality of character, uprightness and simplicity. I have for more than twenty years printed the coarsest invectives against Homocopathy and its Founder, so long as they had the semblance of truthfulness and justice, and bore the name of their author, and this although I have been for more than forty years on the most friendly terms with Hofrath Hahnemann, and respect him as one of the greatest benefactors of the human race on account of his far-reaching scientific culture, his piercing intelligence, his profound and clear spirit of observation, and his great medical services, with for the past fifty years have been thankfully acknowledged by all competent judges of medical science."

These are only two samples of large numbers of such honourable appreciations.

The contrary part can be called from the pages of the medical journals of that day as for instance from the successive volumes of The Lancet in which are stored the evidence, in black and white, ready to be appealed to when the day of reckoning comes. Lancet wrote in January, 1860. "The life of Hahnemann, and the disreputable shifts by which he lived before he hit on his notable scheme, are worthy of attention by those who believe that a bad tree cannot produce good fruit, and who do not expect to gather grapes from thorns or figs from thistles. if he had been merely a hard-working, wrong-headed enthusiast, honest in purpose and believing what he taught, there is sufficient intrinsic evidence in the Organon to carry conviction of its atter absurdity to any rightly balanced mind. Impostures which the untutored mind of a wild Indian would reject with contempt for their illogical absurdity, now obtain faith and credit amongst thousands who delight in them intellectually, and delusions of charlatans, such as our ancestors would have but in the pillory, are now devoutly credited amongst people who can reasoned astutely as to the gain or loss of a pound, yet entrust their lives, and the lives of those dear to them, to the care of men whose professional life is a daily lie, who ignore both science and conscience, and whose shallow reasoning and

baseless arguments are at once confronted by bringing the slightest glimmer of reason to bear on the bombastic creed they adopt, and the arrogant pretensions they assume. This is no overcharged picture of that wide-spread system of quackery known as Homeopathy, and the persons who must maintainy the cheat to maintain themselves. The personal attributes of such homeopathic practitioners as live on the credulity of the English public are not attractive. The professional life of the greater number of them is necessarily, and by their own testimony, a daily elie, as in the very outset of their careers they commit themselves to moral dishoneiy. A man obtains a degree entitling him to practise medicine. He knows that it is conferred on him with the understanding that it is granted to him on the understanding between him and the granters, that he shall practise in accordance with those great principles of honesty and truth which rest on foundations laid in the depths of the sea of time, and which have grown as the Coral Islands grow, slowly and surely, and ever with the impress of the Great Hand on the work. But this neophyte acknowledges no such moral obligations, being in this respect a thousand times more contemptible than those perverted priests who do renounce their benefices and collegiate titles when they change their faith. The homoeopath, on the contrary, uses the degree (obtained often under false pretences of orthodoxy) to practise in opposition to all he has solemnly promised to observe: he acts a lie every time he signs his name to a prescription, and endorses the imposture he has committed whenever he takes a fee or presents his bill." This is extracted from the first volume of The Lancet taken down at random from myself. Thank God for the Medical Act! Could anything be more false and disgraceful. a day of reckoning coming when reference to these forgotten lucubrations will provide abundant evidence of the genesis and responsibilities of "Schism." As we think of the orthodoxy which drove Hahnemann by its fatal grossness to decline practice, and in the 106 years how many changes have occurred—fashions changing with each decade—and yet forsooth the legal necessity to be a qualified practitioner binds one to practise in accordance with what was orthodox at the time of examination! What arrant nonsense! Surely common sense declares that, having satisfied the law by obtaining the necessary qualification, each man claims, and is expected to progress, and enlarge his knowledge, and at all times stands charged to treat his patients according to the very best he knows, and not according to any opinion of other, either individual or corporate. The Medical Act provides against such ignorant pretensions, as set forth by The Lancet, scotches such trades unionism, and declares that no one shall be subjected to inquisition as to any private opinions he may hold, nor be called upon to promise to practise for all time what happens to be the passing fashion.

Law rules out "The Lancet." To investigate every and any new proposal or discovery, and reject or adopt them according to his own convictions, and to be prepared with an open mind to receive anything that may present itself which is better than that already attained, and thus to be always ready to do the very best he knows for his patient, is the simple and absolute duty of every physician and surgeon.

This then having become my own position, convinced that I had found truth and light where I did not expect to find it, I nevertheless found myself up against the brazen walls of a bitter and unreasonable majority. Societies closed, journals closed, appointments closed; without opportunity to discuss, reason, or defend.

It was incumbent on me to practise what I believed, and as I owed an apology to my father for my former indifferent attitude, and as he wanted help, I joined him in practice. In that city, by no fault of my own I found myself isolated, and medically and socially boycotted as far as it could be accomplished. I never separated myself. I simply stood square in the place which truth and honesty compelled me to take, and yet I was branded as irregular, untruthful, dishonest, ignorant, and foolish, according to the popular teachings of The Lancet. The "Schism" was not mine, but theirs.

The orthodoxy of Hahnemann's day, and against which he testified, had quite passed away, and the teachers of my day would have denounced such teaching as barbarous. He did that when he almost stood alone, and all their progress has been along the lines foreshadowed by his prescience. "Change of type," refuge of the destitute! came and went. Expectancy, with its feeble light and faltering steps, was being cast into the shade by the rapid startling strides of surgery. Then began the search for specifics with the simplifying of prescriptions, and the advances of pathology, and precision in diagnosis. Wonderful synthetic products acclaimed as marvellous cures had their day—to give place to others. Large changes in the Materia Medica, with steady inclusion of medicines new to ordinary practice, or new uses of old remedies in lessening doses, the results of successful homeopathic records.

Years have rolled on, and men have come and gone, till I find myself to-day the oldest of the practitioners of my city. Much has transpired. I have to record much personal kindness from a few professional friends I have made. Years of successful practice with some well-known cases which have perforce made an impression, and such charges as knave or fool have died from most professional lips. There still remains, however, to the younger generation, what seems to them, with their ignorance of the history, and an inherited tradition, a charge as baseless as the older ones, of "schism." When the physician with whose letter I began this paper first came to Norwich, I invited him to see, in consultation, a lady lying very ill with cardiac dilatation, and suffering distressing tachycardia. He met me. Most pleasantly we consulted. He knew that he was not asked to treat the case. He expressed his surprise at the patient's good condition considering the severity of the lesion, and we left the house together. About a fortnight later I invited him to see another patient, but with obvious discomfort, he had to decline on the acknowledged ground of outside influence. I reminded him that he had found no difficulty as a physician and gentleman in meeting me, but now the pressure of a medical trades union

was too much for him. I have never consulted with him since, but twice I have, under pressure of friends of patients, asked his help and been refused. My last communication to him was as follows:—

"I wish in writing this to you to express no personal resentment or ill feeling, though that would not be strange under the treatment to which I have been subjected: Myself insulted. and my patient compelled to treat me, as was acknowledged, abominably. I am the senior medical man practising in Norwich, and, please to remember, practising legally. For over thirtyfive years I have practised according to my light and conscience. When you first came to the city I welcomed you, being no schismatic, and invited you to consultation, and you came. Acting in the exercise of your liberty and courtesy, you answered my call to the comfort of the patient, and with no discomfort to yourself. Under the baneful influence of an ignorant and unworthy trades unionism you abandoned your position, and took up an attitude of non possumus. Twice since then, under pressure of special request, I have sunk my natural disinclination, and have asked, your help. You know that I am neither a fool nor a knave, but an honest believer in the law of similars, whenever applicable, as the best means of cure; therefore, I practise it. If I were dishonest enough to hold my belief without confessing it, and practically join with others in denying the truth while I secretly practised it, and in so doing practised deception. I might have your help and countenance. Being honest, and refusing to be a party to such a fraud, I am, by you and those whom you represented, subjected to professional ostracism and persecution, which is a disgrace to you and an astonishment to those who see it. There is a day coming when all this unworthy conduct will reap its due reward, and meantime you may persecute, but you cannot kill the truth.

"Yours, &c.,

I had a patient suffering, as I feared, from abdominal carcinoma, and invited a surgeon to give me his advice as there was

considerable ascites. He readily made an appointment, but before the time came he appeared in my consulting room looking queer, and evidently in trouble. As he seemed to have a difficulty in explaining himself, I said, "Oh! I see how it is, you have been got at, and you do not want to see my patient. You have already made an appointment, and, of course, I could call on you to keep your word, but I will not do so; I will inform the patient, and get help from another source." Then he said, "I am afraid you will despise me." "No," I replied, "I will not despise you; you despise yourself." A request was soon responded to by my good friend Dr. Burford, and the fluid having been removed, and a positive diagnosis made, the case had to be left to its inevitable ending.

Some ten years ago I was attending a young lady and found she had a growth obstructing the descending colon. Her condition became critical. I advised a consultation and suggested the name of a surgeon. He was seen, declined to meet me, and though I had proposed his name, and though he completely confirmed my diagnosis, and the necessity for an immediate colotomy, he would not see me nor allow me to be present at the operation, though my patient earnestly besought that I might be with her as her friend. I was no schismatic, I would have met these gentlemen, and would have utilized their undoubted ability, but they deliberately raised a barrier and created the schism.

The wheel has gone round, and I have since then consulted with this surgeon and others on several occasions, assisting in several extensive operations, yet there has been no expression of regret for the past, either individual or corporate. They know that I am competent, professionally ethical, doing my very best for my patients, and have done so all these years. I am just as I always was, it is they who have changed. If they were right then, they are wrong now. If there has been "schism" it is certainly they who have made it. Under the recent pressure, of the British Medical Association propaganda, though I had never been invited to join them, I received letters

from the local Secretary inviting me to sign the various resolutions they had tabled as to the National Insurance Act, and to promise to resign all appointments and refuse to do any work under it. Their final letter ran to this effect:—

" The National Insurance Act.

DEAR SIR.—The Norwich division of the British Medical Association has decided that it would be advisable to appoint a Provisional Medical Committee for the City of Norwich, representative of practitioners, whether members or non-members, which would watch over the interests of the profession as far as they would be affected by the operation of the Act. Its formation would in no way be considered as an expression of opinion that the terms of the Act are such that the profession can accept. There are in Norwich fifty-eight members of the British Medical Association, and five non-members in practice. It seems to the members of the division that if ten members were approinted by them, and one by the non-members, that a fair representation would be attained. The Norwich division has appointed ten of its members to serve on the Committee, and has instructed me to write and ask you to meet, and appoint one of your number to serve, and it is desirable the Committee should meet shortly."

In reply I said: "As for myself my position is this: the British Medical Association by their corporate action in the past treated my father and me in this city in a way that could only be expressed as unscientific and persecuting trades unionism. No expression of regret for those years of ostracism and unfair treatment has ever been tendered. No official charge has been recorded. I could not, therefore, place myself in a position of submission to the vote of a majority of its members, on matters which might involve my judgment and conscience. In all that I could approve, the already appointed representatives will, no doubt, fully suffice. Under the existing conditions, I prefer to hold by independent position."

The experiences thus personally recorded, reaching back to the early days of homeopathy in England are fairly typical of the general experience. There may be still a variety of circumstances obtaining in different places, but I think I am fairly guaging the feeling of the majority of the better class in the profession in the conclusions I have stated. The charge of being knaves and fools is no longer attempted, but the challenge is, why do you separate yourselves? Why these two camps? Why this schism? The answer is that the "schism" exists because it was created by the profession, created long ago, in contempt and denial of the truth which was held then as it is held now, in spite of every opposition and misrepsentation, and which has never changed. There has been a change indeed, not ours, but theirs.

The experiences of the last cholera epidemic, with its discussion in Parliament, and the revelations connected with the ventilation of the subject which led to the passing of the Medical Act, have had their effect. The patient and determined demonstration that homeopathy, often declared dead, has come to stay, and the refutation of the charges of the old kind by the successful treatment in private and hospital practice of cases well before the public eye, have altered the case. Practice called orthodox, but subject to bitter controversy changing, conflicting theories of disease leading to absolutely contradictory treatment have, with the great Times correspondence, impressed the public. The steady progress with the extension of public manifestation in the completion of our beautiful and fully upto-date hospital and nurses' home, the well ordered and selfdenying work of the hospital staff; the establishment of the British Homeopathic Association, the Honyman-Gillespie and Compton Burnett Lectures, the Mansion House meeting, with the worthy and highly important services of the Lord Mayor of London, Sir George Truscott, the establishment of the Sir Henry Tyler Scholarships, and latest of all the welcome tardy change of front by the British Medical Journal, and till more wonderful, The Lancet, which in answer to Dr. Tyler's doughty' challenge, after sixty years' misrepresentation and refusal of all things homoopathic, advertises our excellent educational

offers, while the New Age, true to its name, admits prophecy heralding the advent of our coming victory, all these have had their lasting influence. This influence, none the less great and real because unconscious, has been steadily working changes, but the fact remains that no ackowledgment has been made such as benefits the conditions, and we are now exhorted to purge ourselves of schism. Now this, gentlemen, reduced to its simplest terms means this and only this, that we are after all that is past, and ignoring the dictates of conscience, to abandon or conceal the great truth of which we are witnesses: only thus could we escape from the position into which by the mistaken profession we were forced, and it is because this is so, and can never, never be adopted by us, that it is needful once more to state our case, and make it quite plain that it is those who raised this unfair and unworthy barrier who must remove it, and then and then only schism can cease.

If it had been a case of an old quarrel or misunderstanding in which had words and bad tempers had been in evidence, well might we all mend our manners, profit by experience, show a forgiving spirit and heal our division in forgetting the past. But this is not and never can be the outcome of this controversy. It is a question of truth and deep conscientious conviction. It is the vindication of the honour and good names of our departed masters, fathers, and faithful companions. We must remember how, with their varied abilities and from their varied points of view, they all stood for the great truth for which we all stand. The whole is greater than its parts. The mountain is great, but from various standpoints it varies in itspresentments, and we must travel round it if we would fully know it. But there it is in all its greatness, and each one who sees it, tells of it as he sees it, nor denies the other view. We all have our limitations, predilections, our personal experiences: let us not allow ourselves ever to lose sight of the sunlit summit which we can all see, and let us beware of the prejudice and narrowness we have seen and judged in others, and temper our judgments with moderation, discretion, and gentle speech. "A

house divided against itself cannot stand." We have never claimed that we had all the truth, but the truth we have, for what we have, is truth. The truth was from the first denied declared to be folly and lies, but through the century the tyrannous pressure of the bitterest trades unionism ever exhibited has failed to crush it, or its exponents. We are, as always, ready to resume our unwillingly vacated and proper place in the profession, but those who closed the gates must open them to us with our banner of truth intact, there must be peace with honour. We must keep the flag flying till it can be carried by faithful hands to its true place in the van of the army marching on to victory over disease and pain. For this we wait, and work, and pray.—The British Homeopathic Journal, November, 1912.

EDITOR'S NOTES.

· Treatment of Snake Bites.

Henry Tucker, in the *Therapeutic Gazette* for May, 1912, states that the presence of more than two puctures at the seat of injury strongly indicates that the wound is not one made by a venomous snake; the head of the snake should, however, wherever possible be kept for identification. In regard to the treatment, the author offers the following recommendations:

If, as is generally the case, the bite is on an extremity, tie one or more ligatures—preferably of broad rubber bands—above the injury. Incise deeply, cutting across the puncture for at least one inch, and well beyond the depth reached by the fang. Next, wash in running water, manipulating the part to promote free bleeding. If running water is not available, suck the wound, then ringe the mouth thoroughly with a solution of postassuim permanganate. Now wash the wound well, and use in and around it the postassium permanganate solution; or inject a one to 100 solution of chromic acid, being careful to infiltrate completely, not only the wound, but also the surrounding tissues.

Do not give ammonia. Stimulate with *small* doses of whiskey, if indicated, but do not overdose, as more persons have been killed by taking large quantities of whiskey than by snake bite.

When positively certain that the poison has been removed from the wound, loosen cautiously the ligatures, that nearest the heart first, but do not remove them, so they may be again tightened if symptoms recur. In all cases the victim must have the best surgical care, and the wound should be kept open by packing with wet antiseptic gauze, as sepsis and local gangrene are very apt to follow the injury.—New York Medical Journal, August 31, 1912.

Sun and Free-Air Tratment of Surgical Tuberculosis.

Hüssy observes that surgical tuberculosis that is tuberculosis, which we have treated by operations, should be viewed from the same standpoint as phthisis, when we will get better results. The patient suffering from joint or bone tuberculosis should be sent to sanatoria situated in high mountainous regions, where there is plenty of sunlight and where climatic conditions are much better than in low countries. To make this possible the number of such sanatoria situated in greater altitudes should be increased and either be founded or assisted by the government.—New York Medical Journal, September 7, 1912.

American Patent Medicines.

Some idea of the extent to which patent medicines of American origin are consumed by the British public can be obtained from a report which has recently been issued by the Department of commerce at Washington. According to this report, the value of the exports of proprietary remedies to Great Britain last year was no less than £400,000, which, when the profits of the middleman and the retailer have been added, represents something like one-third of the sum which the English public spend each year on patent medicines. In other words, something like fifteen million packages of American proprietary remedies come to this country each year. Fifteen years ago the value of the exports of American "patent and proprietary medicines" to all countries amounted to less than half a million pounds, while last year it reached a total of £1,400,000.—The Homeopathic World, September 2, 1912.

The attitude of the Medical Journals towards Homeopathy.

In connection with the Sir Henry Tyler Scholarships for America another attempt was made this year to obtain a place in the advertisement columns of the Lancet, British Medical Journal and Practitioner for the following advertisement:—

Sir Henry Tyler Scholarship Fund.—Several Scholarships of £150 are again offered for Doctors desirous of studying Homœopathy in the Schools of America. Apply to Dr. Margaret Tyler, Linden House, Highgate Road, N.W., or to Secretary, London Homœopathic Hospital, Great Ormond Street, W. C.

In times past, even advertisements have been refused if Homocopathy was mentioned in them, so great apparently is the terror of the orthodox lest any rash investigator should imperil his soul by enquiring before he condemns. This year Dr. Tyler sent the following covering letter which by her permission we reproduce:

"Linden House,"
'Highgate Road, N. W.
"July 26th, 1912."

Dear Sir,—I shall be much obliged if you will give the enclosed six insertions in your paper, and will let me know what I owe for the advertisement. I do hope you will be able to take it, as I hate

having to go to the Lay Press; but if the Medical Journals refuse, I have no alternative.

"Surely in view of recent developments in Science and in Medicine, it is a little out of date to ostracize Hamceopathy which has tonsistently taught the single dose of the scientifically indicated drug; the use of the virus of disease to cure disease; the necessity of waiting till the period of aggravation (the "negative phase") as well as the curative reaction is past, before repeating the stimulus, etc., etc., and that for the last hundred years.

We are sending these scholars to Dr. Kent, of Chicago, who teaches the Homeopathy of Hahnemann, from which some of our English homeopaths have, in some ways, wandered; and his pupils are, in consequence, doing some magnificent work. Homeopathy is not quackery; it is simply Scientific Medicine; and Science is Proving it up to the hilt. In can hurt no doctor on earth, whatever he may elect to practise, to enquire into it and to master its teachings. We bind no man to practise what he has been taught; we merely give him a chance of judging of truth for himself.

"Yours very truly,
"M. L. Tyler."

The advertisement nevertheless refused, and the liberality of mind of the conductors of these Journals as well as their scientific spirit, is thereby once more demonstrated. The Hospital inserts the adversement.—The Homocopathic World, September 2, 1912.

Diet in Tuberculosis.

Kendall says that forced feeding is not essential in the treatment of pulmonary tuberculosis. Great gains in weight should not be sought, but an endeavor made to secure a gradual increase in the patient's weight up to a point slightly above normal. A lower protein content is better tolerated than the amount now usually given. The partaking of meals should be under close supervision, with rest before and after meals enforced. Constant attention must be given to the question of proper proportion of food elements. Cheerful and contented patients are more likely to be hearty eaters, and to progress favorably, than those who worry. Figs and milk are not indispensable in the dietetic management of tuberculous patients. Lunches should not be given between meals unless there is a special reason. It is a hardship to advise patients to procure food the price of which is almost prohibitive, when a diet of equal

or greater nutritive value can be purchased for less money.—New York Medic Journal, Septembre 7, 1912.

Thyroid Feeding in Mental Diseases.

Eager has carefully watched the effects of thyroid feeding in forty, one cases of mental disease, and believes that in selected cases it is decidely benefical. Following the method of McPhail and Bruce. Eager administered sixty grains of thyroid extract daily, in three doses for two weeks, unless the pulse and temperature showed too great a reaction, when it was temporarily suspended. The patients were put to bed, and records were kept of pulse, temperature, urine. weight, etc. The final results obtained were thirty-four per cent. recovered, twelve per cent: improved, and the rest not benefited. The largest percentage of recoveries occurred in patients under thirty-five years of age. Of the effects produced by the treatment, increase in the pulse rate and rise in temperature were almost constant. Loss of weight, was pronounced, the greatest amount being nineteen pounds in two weeks. Desquamation of the superficial layers of the skin appeared after the treatment was stopped. Uranalysis showed the effects of increased proteid metabolism. The author feels that the beneficial results are largely due to stimulation of some internal secretion, probably that of the organs of reproduction, since improvement is most marked during the period when these organs are normally most active. - New York Medical Journal, September 7, 1912.

Unclean Mouth.

M. H. Fletcher claims that unclean mouths are probably the indirect cause of more disease than any other source. Alveolitic, usually starts from local irritants at the necks of the teeth, and of these tartar is the most frequent and constant irritant. The resistance of the tissues may for years prevent malignant infection of the lesions, but the ultimate end, if the patient lives long enough is the loss of the tooth. Tartar cannot be gotten rid of by the tooth, and it causes swelling and inflammation of the gum and pockets into which it penetrates, causing the gum tissue to recede and give rise to a suppuration of the gum and the bony socket of the tooth. When pus becomes manifest it produces pyorrhead alveolaris. The pockets must be sterilized or the tooth removed before it will disappear. The usual result is considerable destruction

of bone, sometimes a considerable portion of the jaw has to be removed in advanced cases or necrotic alveolitis. There is probably no disease so prevalent as alveolitis and no one so amenable to treatment. Prevention is a matter of keeping the mouth clean and the teeth free from tartar. The whole of the operative treatment consists of removing the tartar or other irritant and sterilization, and the patients can to keep their mouths clean and carry on the preventive treatment themselves.—Medical Times, October, 1912.

Auto-operation for Inguinal Hernia.

Regnault (Journ. des Pratioines, 1912, xxvi) operated upon himself for this condition, and for that reason the case is worth mentioning. He injected a demicentigram of morphine into the left thigh and a solution of cocaine hydrochlorate, 1 in 200, made with physiological seram and sterilized in an autoclave to 120°, into the inguinal region, and followed the latter with two other injections into the same spot. The author describes the steps of the operation, during which he felt no pain. He finds that 9 c. cm. of the above solution of occaine are sufficient for operative purposes.—The British Medical Journal, November 2, 1912.

Crysarobin and Chrysophanic Acid.

Lemaire (Gaz. hebd., April 28th, 1912) calls attention to the confusion that is apt to arise from the indiscriminate use of these terms. The two drugs are chemically quite distinguishable. The former results from the fusification of Goa powder by benzine, while chrysophanic acid is obtained by the oxidation of chrysarobin. is hardly possible to obtain true chrysophanic acid commercially. Owing to the inexactness of the strength of these preparation the author recommends their application to only a small portion of the skin until the degree of tolerance in a particular case is ascertained. Otherwise erythematous rashes, furuncles and even scarring may result. It has been stated that chrysarobin acts by virtue of its transformation into crysophanic acid, owing to a process of oxidation when in contact with the skin. Nearly all preparation used differ in They do not correspond to the theoretical strength and activity. denomination of the chemist.—The British Medical Journal, November 9, 1912.

Tower Skull and Optic Atrophy.

Tower skull (Thurmschädel) or oxycephaly—for the two deformities are similar if not identical-may give rise to optic neuritis. Nearly 90 cases have been recorded. The subject is reviewed by Bray of Philadelphia, who contributes 2 new cases to the Annals of Ophthalmology for January, 1912. He comes to the following conclusions: There is a special from of deformity of the skull which gives rise to optic neuritis which goes on to atrophy with partial or total blindness. The cause of the deformity is a premature synostosis of the coronal sutures whith a compensatory hypertrophy in the sagittal sutures and in the region of the anterior fontanelle. This deformity may be brought about by a meningitis following some of the exanthemata. especially syphilis, measles, and rickets. The cause operating in the production of the cranial deformity is also the responsible factor for the optic nerve disease. That the optic atrophy is not caused by increased intracranial pressure. That in the light of our present knowledge trephining to relieve such increase of pressure is not warranted. That in a large number of cases useful vision is maintain-That whatever vision is present after the atrophy has run its ed. course is usually preserved throughout life. That of all the cranial deformities the oxycephalic is most frequently associated with optic atrophy. That nothing can, as far as we know, be done to prevent the onset and development of optic atrophy.—The British Medical Journal, November 9, 1912.

Craniotabes and Heredo-syphilis.

Leroux and Labbe (Ann. méd. et chir. infantile, August 15th, 1912) have intestigated 32 cases of craniotabes with regard to its etiology. They found heredo-syphilis alone or associated in 17, heredo-tuberculosis in 5, heredo-alcoholism in 2, other hereditary influences in 3, and unknown antecedents in 5. The authors conclude that craniotabes is an osseous dystrophy due to several causes, among which heredo-syphilis plays a prominent part, but they remark that its etiology is practically the same as that of rickets. It occurs chiefly in prematurely born or debilitated infants affected by dystrophic heredity, whose nutrition has suffered during pregnancy. The predominance of syphilis in the antecedent history, therefore, seems due to this infection predisposing to rickets.—The British Medical Journal November 16, 1912.

Mushroom Poisoning.

Fouvielle and Charnel (Journ. despraticiens, September 28th, 1912) draw attention to the high mortality that obtains in cases of muscarin poisoning and express dissatisfaction with the small results They have recently made a thorough study of the of treatment. question, and quote a number of cases to show that practically in every case there is an identical symptom-complex to deal with. These are: (1) A state of muscular exhaustion, general asthenia. and prostration almost amounting to torpidity. (2) A progressive acceleration of the rate of the cardiac impulses with a coincident enfeeblement and instability of the pulse. (3) Marked oliguria; this amounted to a state of anuria in one of the patients who died. To deal with this triad of symptoms the authors administered (a) adrenalin, 1 in 1,000 dilution—one drop given every hour for the first day, every two nours during the second day, and six drops during the third day; (b) crystallized digitalin, 10 per cent, solution -five drops night and morning; (c) a cachet of the obromine night and morning for five days. The improvement in the case of all patients in whom this treatment was tried was immediate. The authors maintain that, although the method of treatment is a therapeutic experiment, it was justified by the signal success which attended its adoption.—The British Medical Journal, November 16, 1912.

Gleanings from Contemporary Literature.

DRUNKENNESS AND THE PHYSIOLOGICAL EFFECT OF ALCOHOL

Delivered before the Midland Medical Society. By Charles Mercier, M.D., F.R.C.P.

GENTLEMEN.—At the present time the medical world is being stirred by a new interest—in the history of medicine—and therefore I make no apology for addressing you on the subject of drunkenness, although its importance is mainly historical. In other respects it is of fading and diminishing importance. We are told, in one of the most brialliant plays that ever was written, that damus have had their day; and however premature the assertion may have been with respect to damus, there is no gainsaying that, in the country at least, drunkenness has had itsiday. We are now a sober nation; and instances of the affection of which I am to treat to-night must be sought for mainly in history. It is true that we are still, upon rare occasions, called upon to treat a case of delirium tremens; and some of us still hear, from time to time, the once familiar phrases, 'Five shillings or seven days,' 'Forty shillings or a month,' but these formuals are rapidly becoming obsolete.

It is true that if we listened to some of the advocates of total abstinence. we should suppose that drunkenness was never so rampant or so prevalent as it is now; but these people have failed to move with the times. fulminations are out of date; they refer to a state of things that has long passed away. The antagonism to alcohol has fossilised into a superstition, and total abstinence is advocated for all and sundry, irrespective of whether they are temperate or not. For this reason it is losing, if indeed it have not already lost, its influence. For my part, I abominate intemperance; but I recognise that intemperance is not confined to indulgence in alcohol. There is intemperance in speech and in statement, as well as intemperance in drink; and while it is admitted on all hands that the craving for alcohol is sometimes irresistible and insurmountable by any effort, I find it difficult to believe that the craving for using exaggerated language about it might not be resisted and surmounted by the exercise of self-control. The drunkard is at any rate sometimes sober. but we have yet to wait for sobriety of language from some of the advocates of total abstinence.. There comes into my mind a certain saying about compounding for the sius we are inclined to by damning those we . have no mind to.

I do not say that the cult of total abstinence has never been of use, or that is may not now have its value in certain of our oversea possessions, to whose support we attach so much importance, and to whose opinions we attach a value that seems to me exaggerated. What I say is that the cult has lost its value and its importance here and now, for the same

weason that leper hospitals and precattions against agae have lost their importance in this country at the present day: that is to say, because the conditions of their usefulness have ceased to exist.

ENGLAND IN PAST TIME A DRUNKEN NATION.

The time was when Eugland really was a drunken nation; but that time was long before the memory of any one now living. The time was when there was no disgrace in being drunk—nay, it was the other way shout. Drunkenness was the fashion, and he was disgraced in the eyes of his companions who went sober to bed. In my youth there was a convivial song, new long forgotten, and even then long obsolete, which suppresented very fairly the prevailing sentiment of a hundred years before. It ran thus:—

He that drinks small beer and goes to bed sober, Will fall as the leaves do,

> Fall as the leaves do, Fall as the leaves do.

Aud die iu October.

While he that drinks strong beer and goes to bed mellow,

Lives as he ought to live, Lives as he ought to live, Lives as he ought to live,

And dies a jolly fellow.

In the latter part of the eighteenth cantury, people sat down to dinner 4t 4 or 5 o'clock in the afternoon. Dinner was a stately and solemn exemony, as needs must be when host and hostess carved for their guests and were allowed after each course a quarter of an hour's law, to eat their own the others had finished. After two or three hours, the cloth was removed, and the decanters went round in coasters on the polished anahogany. After a decent interval, the stories began to broaden, and the ladies retired, while the gentlemen settled down to the business of the evening. From that time until midnight, drinking went on ; not esaid or furious drinking, but slow and steady absorption, as the decanters went round. From time to time the process was accelerated by the host chiling upon one of his guests for a toast, or a sentiment, and then all were obliged to fill and empty their glasses. Nowadays, no one notices whether a health is actually drunk or not, but in those days the rule against heel-taps was rigorously enforced, and he who left any remainder in his glass was held to be wanting in respect and loyalty to the toasts, and emight very well have to answer for his negligence next morning in a duel. The fashion of the toasts is still with us, but in a mitigated and attenuated sorm. We do not now toast the reigning beauty, and the rule against heal-taps is no longer enforced; and we are spared altogether the horrors of the centiment. We are not now called upon after dinner to drink to the reflection of the moon on the calm bosom of the lake,' or to the man whe would place king and country before life and wealth.' We should as soon think of toasting the man who broke the bank at Monte Carlo.

In the days I speak of, our forefathers did not dine by the light of the electric filament, or of incandescent mantles, for in the reign of George III these conveniences had not yet been invented. They dined by candle light, and from time to time the servants came in to snuff the candles, and took the opportunity to loosen the cravats of those guests who had subsided under the table. At length the orgic came to an end, and the half drunken servants staggered in to carry their wholly drunken masters to bed.

In those days, the doctor was often half seas over when he attended his drunken patients; the parson was often drunk in the pulpit; judge, counsel, and attorneys pursued their avocations in court in a prevailing atmosphere of hot coppers. The Prime Minister went drunk to the House of Commons where he was attacked by the leader of the Opposition, also drunk, while order was kept by a Speaker who was half seas over. There was no excise on spirits, and the coarser kind of distilled liquors were ridiculously cheap. As you passed along the bye streets of London, and perhaps of other great cities, you might read the legend hung out over the drink cellars, 'Here you may get drunk for a penny: dead drunk and clean straw for two pence.'

THE NATION NOW A SOBER ONE.

Contrast that state of things with what exists now, and then will any teetotaller have the hardihood to maintain that drunkenness has increased, or is becoming worse, or is as bad as ever? Such assertious serve merely to expose the ignorance of those who make them. The fact is undeniable and indisputable, not only that we are much more sober than we were, but that the English—I say nothing about the Irish or the Scotch, because I do not know—the English are now a sober nation. It is very rare now to see any man above the rank of an artizan drunk, and the enormous majority of artizans, yes, and of day labourers, are sober men. It is futile, I had almost said fatuous, to go on repeating a parrot cry that was once applicable to a state of things that has long passed away. Unless we wilfully shut our eyes, or wilfully say the thing that is not we are compelled to adimit, with whatever reluctance, that the English are now a sober nation.

If we consider the altered conditions of life and of employment, we see that this must be so. The occupations by which men now earn their living require a skill, a nicety, a vigilance, an accuracy, an attention, which are incompatible with even occasional drunkenness. The horses of a stage coach could find their way to their accustomed destination, even though the driver was so drunk as to be incapable of directing them. Indeed, I have been told by an eye-witness that, in the early part of the last century, the London coach came safely into the inn-yard in Birmingham, although the driver was forzen to death on his box. But to-day the London express could scarcely be trusted to come safely into Snow Hill station if the engine driver were forzen to death, or even if he were drunk. When we consider the enormous army of men that is employed

on and about railways—on the footplate, in signal boxes, in the gnard's van, and in other responsible positions—and remember that even a momentary lapse of vigilance might result in horrible disaster, we must acknowledge that, wherever drunkenness is to be found, it is not among railway servants. Whoever heard of an engine driver, a stoker, a mignalman, or for the matter of that, any employee of a railway company. appearing in a police court on a charge of drunkenness? Accidents do unhappily occur to trains, and every such accident is enquired into with the utmost stringency by the Board of Trade, but who ever heard of a railway accident being attributed to the drunkenness of a railway man? Not one. And the railway men are but a sample. Machine work supersedes hand labour everywhere, and in almost everything; and the men who tend machines, whatever the nature of the machines, must be sober men, and are sober men. The penalty of drunkenness to the tender of a machine, and not only to him, but to his mates, is too terrible to be incurred. Positively, the only class of men concerned with machines who ever appear in the courts charged with drunkenness are the drivers of motor vehicles; and even of these, the proportion charged is almost infinitesimal. And we must remember that this is a new industry, an industry of enormously rapid growth, and can scarcely be expected to attain stability for a few years. Consider the enormous number and proportion of the population of this country that is daily concerned with the working of some kind of machinery, and consider that you rarely or never hear of one of them being accused of drunkenness, or even of losing his place for drunkenness, and you must admit that among the artizan class a drunkard is become a rarity, a curiosity, and an anachronism. Even in the lowest ranks of labour, among navvies, dockers, and day labourers, sobriety is the rule, drunkenness the rare exception.

I know what you are thinking, and the objection you would make if etiquette allowed you to interrupt me at this stage. What you would say, and what some of you can scarcely restrain yourselves from shouting at me is, How about the police-court convictions? If the country is as sober as you say, how do you account for the 70 or 80 thousand convictions for drunkenness in the police courts every year? Well, that is a large number, and we have it on no such vague estimate as some of the teetotal statistics are based on, but on the solid foundation of the Reports of the Prison Commissioners. Are these numbers not large enough to falsify my optimism? They are not. The numbers are large; but the proportion to the population is not large. It is very small. The 80,000 drauks are all that are convicted out of some 32 millions. But, you say, the 80,000 are convictions only, and do not include the immense number of drunkards who escape conviction. To this I answer, Pardon me, but how do you know that there is an immense number of drunkards that escape conviction? Where do you get your information? What is the evidence? Grant that not every drunkard is convicted for every drunk, and that there is a margin of drunkards in excess of convictions, I,

know of no evidence that the margin is a large one; and even if it be. I have a huge set-off. For the 80,000 are 80,000 convictions, not 80,000 persons; and many, very many, of these convictions are convictions of the same person over aud over again. Suppose an average of only two convictions apiece, and many are convicted five and ten times, and some two and three hundred times, -but suppose only two convictions apiece, it brings down the proportion of persons convicted to one in eight thousand. Now I say that a population in which only one person in 8000 -the proportion is really less-gets sufficiently drunk to fall into the hands of a vigilant and efficient police, is a sober population; and to speak of drunkenness as a crying and prevalent evil is gross and unpardonable exaggeration. I can remember the time when judges, in charging grand juries, insisted at assize after assize, all over the country, on the large proportion of crimes that were due to drink. We never hear such charges now.

So far, then, we may congratulate ourselves. We are a sober people; and the lugubrious vaticinations of the temperance orators, according to whom the nation is drinking itself into hoggishness and imbecility. are uncalled for, and unjustified.

THE ENGLISH PEOPLE NOT DECADENT.

But now I went to take you a little farther with me. From written and spoken words we gather that we English, drunken, besotted, cowardly, and degenerate as we 'are, are doomed to speedy extinction; and by all the rules of the game we ought to have been extinct long ago. We know, however, that the Germans will conquer us the moment they can make up their minds to spend on the task some of the time they now occupy in drinking beer. The English nation is effete, worn out, degenerate, decrepid; a nation of imbecile, idiotic, impotent, diseased, dwarfs. Such is the cheerful spectacle held up to us by these encouraging mentors.

If I may be allowed to compare small things with great, in some respects I resemble Satan. My teetotal friends will tell you I resemble him through and through, but my modesty will not allow me to accept the comparison. I am like him, however, in this respect, that I come from going to and for in the earth, and from walking up and down in it; and in travelling about the country, what do I find? I find myself passing through evidences of prosperity such as can be paralleled in no other country in the world. I find thick clusters of cities, absorbed in industry, teeming with wealth; miles and miles of warehouses, factories, and shops; miles and miles of handsome prosperous suburbs. Between the cities I find a smiling country, substantial farmhouses, comfortable villages, flocks and herds innumerable. I find London the clearing house, the financial centre of gravity, of the ewhole world. I find that every great epoch-making discovery, with the sole exception of heliocentricism, such as gravitation, combining proportion, evolution, has been made by an Englishman. I find that with the sole exception of printing, every

steam, electro-magnetisms, the gas engine was made by an Englishman. I find that every country in the world comes to England for its live stock. The best horses, the best cattle, the best sheep, pigs, fowls, pigeons, dogs, cats, bees, are all English bred; and I have no doubt that if we tried we could breed the best polar bears and cockatoos. From methods of education to methods of managing street traffic, the world come to England to learn. Where is the evidence of decadence and decrepitude? That we have faults I will not deny. Indeed, there is one great and glaring defect in the English character, from which only the inhabitants of the northern part of this island are entirely free. It is that we have not a sufficiently good conceit of ourselves.

WHY DO PEOPLE TAKE ALCOHOL?

I cannot find any evidence of this prevalent drunkenness that is to be our ruin; but granting that it exists, and allowing to the full all the vileness and horrors that the enemies of alcohol attribute to it, and to those who take it, I still find in ther utterances a conspicuous and remarkable defect. The evil effects of taking alcohol, even in the smallest quantities and on the rarest occasions, are dwelt upon, insisted on, and reiterated, until in truth the thing becomes wearisome; but there is one aspect of the subject that is strikingly and conspicuously absent. I do not now refer to the evil effect that the cult of total abstinence has upon the judgment, on moderation of statement, and sense of proportion. What I have in mind is this: it is usual and natural for an investigator who is describing some very horrible and disastrous state of things, to search out the origin of it, and to suggest a remedy by attacking the cause. If he does not do this, we are apt to suppose that he is a seeker after mere sensationalism, and only wants to make our flesh creep. have listened to many a teetotal address, and perused much teetotal literature, and I am bound to say that I cannot find any inquiry into the reasons why alcohol is so generally attractive, nor one word to account for, or explain, or suggest, why it is that people take it. Yet if it is as horrible, as degrading, as devastating, as it is said to be, this is an inquiry that seems worth pursuit. If those who take alcohol, like those who use fusees,

All grow by slow degrees
Brainless as chimpanzees,
Meagre as lazards;
Go mad, and beat their wives,
Plunge, after shocking lives,
Razors and carving knives
Into their gizzards.

surely it is worth while to ask why they take it, why the race is bent on destroying itself in this way, when there are so many other ways, some of them surely more agreeable than by converting ourselves into masses

of corruption, and our children into gibbering idiots. That alcohol is the most speedy and effective agent for the destruction of both body and soul that the devil has been permitted to introduce to the children of men, all teetotallers are agreed but why, in the face of its known effects, people still continue to take it, is a question that, natural as it seems, does not appear to have occurred to them.

Now to me, this is the root of the whole matter. If people were not attracted by alcohol; if they did not desire it; if they had no appetite for it; if they derived no satisfaction from it; they would not take it, and there would be no need for all these propaganda; and I submit that it is quite as useful to investigate the cause of an evil as it is to denounce it. The argument of our teetotal friends seems to be that no one but themselves knows the disadvantages of getting drunkard is only told often enough, and loud enough, and emphatically enough, that it is a bad thing to get drunk, he will immediately mend his ways and become sober.

I can only say, in the first place, that if the drunkard does not know by this time that alcohol is a poison, it is not for want of having that salutary truth dinned into his ears with sufficient frequency and emphasisat teetotal meetings and in teetotal publications; and in the second, my experience is that the drunkard knows the ill effects of getting drunk quite as well as his mentor, and sometimes a good deal better. When a patient tells you, 'It is no use talking to me like that; that is all stale news to me. My father drank himself to death, and so did my grandfather, and I am doing the same. Leave me alone : you can do me no good; or when he says Drinking myself to death? I know I am. Very well. I would rather die a few years sooner than give up the drink. I drink because I like drink better than anything else in the world-better than my life. My life is my own to do as I like with; and if I prefer to sacrifice it rather than give up drink, you can't frighten me into becoming sober'; when I say, your patients meet you in this vein, it is very little use to tell them that alcohol is bad for cabbages, and therefore bad for them; and unless you can get behind this attitude, and find out what the attraction of alcohol is, you may as well save your breath to cool your porridge.

I say that the time is long past, if there ever was a time, when any useful purpose could be served by proclaiming the ill consequences of getting drunk. The most besotted drunkard is as well aware of them as the most bigoted abstainer. I say moreover, that the absurd exaggerations of the anti-alcohol fanatics bring discredit on their cause, and tend to make people indifferent. Then the ordinary man or woman hears that alcohol is a deadly poison, and that every drop he takes brings him within measurable distance of his grave; and when he sees around him plenty of healthy, hearty people who take their pint of beer, or their half-pint of claret, every day at dinner, and live to a good old age, that is perhaps more genial, more loveable, and more generally respected than that of

the frantic abstainer who warns them of their wickedness, he says 'Bosh!' and I am not sure that he is wholly without justification, though I should not myself use such a strong expression.

No. The task we should set ourselves, if we wish to diminish the small remnant of drunkards that still remain among us, is not to cry 'Bogey!' nor yet to bid them observe how vastly superior to the rest of mankind are the people who do not take beer with their meals, but to search out the reasons for drinking. Why does a man like this glass of beer or wine? Why are most of us content with a glass or two, while others must go on until they are bestly drunk! These are the questions that must be asked and answered if we want to accelerate the natural process by which drunkenness is dying out amongst us.

Why do people take alcohol? That is the crux of the matter; and it is important to recognise that no one answer will account for all the cases. The reason is different in different people; and while I admit and declare that in some people, and for some quantities of alcohol, the reason is a bad reason. I contend that in other people, and for other quantities, the reason is a good and valid reason; and that in these cases alcohol is a gift of God that should not lightly be rejected.

The simplest answer no doubt is Because they like it; but this answer is true only of a minority of alcohol drinkers, probably of only a small minority. If, instead of raving indiscriminately against all who take alcohol, whether in excess or in moderation, we ask of them why they take it, we shall find but few who will say they take it because they like it—because the taste is agreeable to them; and most of those who do answer thus, probably misapprehend the meaning either of the question or the answer. There are, in fact few people who are endowed by nature with a palate so discriminating that they can appreciate the bouquet and the flavour of a fine wine; and the majority of those who drink to excess care very little what the test of their liquor may be, so that it is strong enough. Eau de Cologne, methylated spirit, or even the liquor in which anatomical specimens have been preserved, will serve their purpose, if nothing more tasty is available.

EUPHORIC EFFECTS OF ALCOHOL.

Another answer that we shall often get is that alcohol is taken to quench thirst; but this answer, although it may be given quite bona fide, is, we may be sure, never true. Persons who answer thus do not distinguish. They are not accustomed to analyse their own sensation; and since they have a desire for alcohol, and alcohol is a liquid, they call their desire by the common name that is given to the desire for liquid as such, and say they are thirst. But they are not thirsty in the true sense. If they were, they would drink, not alcohol, which does not quench thirst, but rater, or some other bland liquid. What they mean when they that they are thirsty is that they have a thirst for alcohol, which is quite a different thing. What the vast majority of persons who drink

alcohol, drink it for, is not because they like the tests of it, nor because they are thirsty, but for what is sometimes called its physiological effect. but what ought to be called its psychological effects but is to say, in plain terms, because it makes them feel jolly. It raises their spirits. It confers happiness. It gives them a good conceit of themselves. Is it any wonder that it is so much valued by the English, who are so wanting in this useful sentiment? Is it any wonder that the Scotch, who are not, as a rule teetotallers, are so richly endowed with this quality? It generates a sense of capability, which is one of the main elements in happiness. Now, there is nothing intrinsically or positively wrong in being happy. I have the temerity to assert that it is in itself a state of mind not blameworthy, but praiseworthy. It is not undesirable, but desirable. I know that this is a very unpopular doctrine; and that it is looked upon by many as a very immoral doctrine; but I take my courage in both hands, and I assert firmly that on the whole, and other things being equal, it is better for ourselves and for all around us that we should be happy, than that we should be unhappy.

I daresay that some of you know that my practice is in the treatment of mental disorders; and there are few commoner disorders of mind than an unreasonable depression of spirits—a feeling of misery that is not justified by the circumstances in which the patient is. When such a patient comes to me and demands relief, sometimes almost with meances, I have said to him, 'My good sir, I cannot give you two tablespoonfuls of happiness three times a day out of a bottle.' That is what I have said: but I didn't mean it. I could have given him a prescription, which he need not have gone to a chemist to get made up, and which would have given him at any rate temporary relief. If I have not done so, it is because I am not as blind to the defects of alcohol as my friends the teetotallers are to its merits. I knew that for various reasons that I-need not enter into now, it would be a dangerous expedient, and I have not followed it. But the fact remains that alcohol does raise the spirits: it does make a person happy, and this is the main reason and the main effect for which it is taken. That the effect is transient is no argument against the use of alcohol. It is better to have loved and lost than never to have loved at all; that is to say, it is better to be happy even for an hour or two than not to be happy at all. The unfortunate thing is-and the whole case against alcohol rests upon this-that with use. the effect diminishes, and to obtain the same effect, the dose has to be continually increased. Still, although if alcohol is taken frequently, the dose must be increased to produce the same effect, this is not true if it is taken regularly, and always with the same moderation, although the full euphoric effect is not produced, some effect is produced; and the regular imbiber of moderate doses of alcohol is by so much better off than the abstainer, that though he does not attain to the hilarious exhilaration of his first dose, he yet reaches a placid contentment, a good natured geniality.

THE POWER OF UNLOCKING ENERGY EXERTED BY ALCOHOL.

I believe that the majority of drinkers take alcohol for this emphoric effect: but certainly this is not the motive with all of them. There is another physiological effect of alcohol which is upon occasion of the utmost value, and which, as far as I know, has never been referred to by any writer on the subject except myself. Yet it is so manifest, that the only way in which we can account for the universal silence on the subject is that those who have written about alcohol have gone into the matter with the predetermination to find it all bad; and this prejudice has blinded their eyes to patent and clamorous fact. This unrecognised effect of alcohol is the effect for which may seek its aid, and is this:-Alcohol has the power to unlock the store of energy that exists in the brain, and to render available for immediate expenditure, energy that wihout its use would remain in store, unavailable for our immediate needs. I may illustrate what I mean by one or two parallels. It is well known in agriculture and horticulture that the heaviest crops are not to be secured by giving manure ad libitum. If farmyard manure is given in increasing quantities, a stage is at last reached at which the yield is not increased, and may even be diminished. If, when we have reached the maximum crop that manure will produce, we give to our land, instead of manure, a dressing of lime, we get always an increase, sometimes an enormous increase in the yield. Why is this? Lime is not a food for most plants, any more than alcohol is a food for most men; but yet by the administration of lime we may add enormously to the energy of the growth of plants, and by the administration of alcohol we can add very largely to the output of energy by men. The adversaries of alcohol tell us, with an iteration and reiteration that deserve Flastaff's epithet, that alcohol is not a food. They do not tell us that roast beef is neither clothing nor house room, yet the one statement is as good an argument against the use of roast beef as the other is against the use of alcohol. Lime is not itself a plant food, except in special cases, but it unlocks and renders available to plants the store of food that exists in the soil, but is inaccessible to the plants, and that without the aid of lime would be locked up against them. Similarly, though alcohol is not itself a food, it does without the slightest doubt enable any people to assimilate and digest food that without its aid would be unavailable to them. do not pretend that this is the most important function of alcohol. I am coming to that; but it is indisputably a function, and a useful function: and I shall not be convinced by any number of experiments in which alcohol has been administered to robust and unwearied guineapigs, without increasing their weight, that a glass of wine will not assist the digestion of a harassed man of business at the end of a tiring day.

However, this is rather by the way. The digestive value of alcohol is only one instance of its power of opening the store of energy, and tetting some go free. Let us take another illustration. You have some of you, as I have reason to know, prepared yourself for the ordes! that

you are not undergoing, by taking a glass of champagne with our dinner: and others of you may have solaced yourselves with the more pungent but less effectual ginger-beer. Those who have studied the manners and customs of these beverages know that, when first poured out, they effervesce freely; but after a time they go flat, and are much less palatable. But the fact that bubbles of gas no longer rise spontaneously does not mean that no gas is contained in their depths. All that would come out spontaneously is come and gone, but we can get more out if we add an appropriate liberator. Drop some powdered sugar into each glass, and see what happens. Immediately a swarm of bubbles rises. and breaks at the surface. Just in the same way, the energy that accumulates in our brains during the night spouts out and froths over when the cork of sleep is drawn; but towards the end of the day the bubbles are few, and rise languidly. The liquor that was so brisk and sparkling is become flat and stale : and to extricate a new spurt of energy we must drop some sugar into the golden bowl. What we use for the purpose is, indeed, not plain sugar, but altered sugar-in fact, fermented sugar. We add a little alcohol, and in a few minutes the liquor begins to fizz again. The energy that was locked up is set free; the task that was insurmountable becomes easy.

The evidence that alcohol has this liberating effect on the energy stored in the brain, is manifold. In the first place, when is alcohol taken? What are the times and seasons for taking it? It is taken towards the end of the day. None but a hardened toper takes any form of alcohol drink in the morning. It is true that our ancestors,

Ere coffee or tea or such slip-slops were known,

took beer for their breakfast, but the beer that they took at this meal was always by choice small beer, that is to say, beer with the minimum of alcoholic content. Even that hardened toper, Christopher Sly, when he wakes in the morning after a debauch overnight, calls for a pot of the smallest ale. Why is alcohol drunk by sober people late in the day only, and never in the morning? Because in the morning the store of available energy is ample, and is not only spontaneously liberated, but wells up and bubbles out of us. It is not still it ceases to flow spontaneously that a liberator is needed.

For the same reason, children, in whom the flow of energy is wellnigh inexhaustible, neither need, nor desire, nor like alcohol. It is distasteful to them; and it is harmful to them; and the reason is easy to see. They need no liberator for their stored energy.

Again, some confirmed drunkards owe their habit to the fact that they have habitually overdrawn their account of energy, and have gone on working to the exhaustion point. When they first reach this stage, and the eager mind still craved, or dire necessity demanded, further exertion, there was at hand a ready means of compassing the impossible. They had drawn upon their available store of energy until no more would come, but there was more in store, though they could not get it out.

and by taking alcohol they could make the tale liquor fizz again. They could release their reserves, and with their aid complete the task that without them was insurmountable. The next time the difficulty was felt, it was surmounted by the same means, and gradually a habit was established. But soon a new feature showed itself. When a spirited horse first begins to tire, a mere touch of the whip starts it into a gallop; but as the poor creature becomes more and more exhausted, it must be first lashed, and at length unmercifully flogged; and even then we can get out of it no more than a jog-trot. So when the jaded mind or body first demands a stimulus, a glass of wine suffices to start it into full activity again; but with each repetition more must be taken to produce the same effect, until at last the unhappy victim cannot put on his clothes in the morning till he has had his dram; cannot perform his daily task with a smaller stimulus than is supplied by a bottle of whiskey.

You will observe that I am not wilfully blind to the ill effects of alcohol as my friends the tectotallers are to its merits. I do not say it is advatageous, as they say it is pernicious, at all times, in all circumstances, to all people. Any such sweeping statement about anything, I care not what, raises an instant suspicion of prejudice and exaggeration, even if it does not carry on the face of its own refutation. I assert that in some cases, to some persons, alcohol is pernicious; and I point out how and why it is pernicious; but I should not pride myself on my judgment if on this account I was blind to its advantages to other persons in other circumstances. I do not say that because food is good for everyone in moderation, and when they are hungry, therefore everyone who is allowed to have food will eat till he bursts; nor do I say that because some people eat till they burst, therefore no one should be allowed to touch food. There seems to me to be a want of logic somewhere in this reasoning, but my friends the tectotallers do not recognise these subtle distinctions. With them, the man who will agree that alcohol is the most virulent poison in the pharmacopæia who will not admit that one or two at most, drops make a cat a ghost, useless except to roast,' is a shameless and irreclaimable drunkard, and worse than that, and worse than that, and worse than that.

It is not clear that if alcohol has the power of enabling us to draw upon our service of energy, then we have in it an agent that may be of the greatest possible service in grave emergencies? and although it is open to abuse—as what useful agent is not?—yet on occasion it is most valuable and precious, and is not to be reviled and discarded because a very few use it excessively and injuriously. If alcohol does act in the way I describe, and enables us to draw upon our reserves, then it is clear that it will leave us more exhausted—it will leave the nervous system more depleted of energy, more emptied of its proper contents—than if we had not taken it; and therefore we shall need more rest and more sleep to rebuild our reserves. It is not without significance that in this

matter alcohol provides its own remedy, for whatever its vices and dangers, no one can deny that a sufficient dose of alcohol is as effectual a soporific as even an inaugural address.

If alcohol has this power that I claim for it, of liberating latent energy, it will exercise the power, not only when the available energy is used up and exhausted, but at all times; so that even when energy is flowing freely out of store, the taking of alcohol will add to the freedom of the flow, and this augmentation of the supply of free energy will show itself in increased activity of body, or of mind, or of both. That alcohol does increase the activity of both body and mind there is abundant evidence to show. The increase is but temporary, and is apt to be followed by exhaustion, but increased activity there always is. What form the activity will take must depend upon the state of the different parts of the brain, as to repletion or exhaustion, when the alcohol is taken. If the highest level of the brain contains plenty of energy, this energy will be set free by the alcohol, and the result will be increased activity of mind. If these higher levels are empty, more energy cannot be had from them, and what increase of activity results will be activity of body and will be crude and unintelligent; and between these two extremes there will be every grade. Is there any evidence that these are in fact the results of taking alcohol? I think there is. I can adduce abundance.

When a party of strangers sits down to dinner how stiff, how formal, how constrained, is not their coversation through the soup and the fish! But note the transformation when the champagne has been round. Then the string of their tongues is loosed. The room hums with animation; the shy find themselves at their ease; the dull become witty; the clever become brilliant; and even the ill-dressed forget their embarrassment. But let the alcohol be taken by those whose higher brain levels are illdeveloped, or have been exhausted and placed out of action by previous doses of alcohol, and what is the result? Still there is over action, but the over action is now over action of body, and is crude, unintelligent, and ill-directed. No teetotaller will deny that a man in his cups is apt to be boisterous and uproarious. He sings and shouts; he jumps over the chairs and tables; he may even smash the furniture; all manifestations of an increased output of energy from a low level.

I have pointed out to you how natural and how universal a custom it is to postpone our ingestion of alcohol to the later hours of the day, and I have indicated the reason. It is because in the morning, after the recuperation of sleep, the butflow of energy is at its maximum, and needs no reinforcement. It is when the occupations of the day have depleted our stores of energy that we find the liberating effect of alcohol so potent and so advantageous. In the morning there is no need of it. and its absence is no drawback. Then it is not missed. Those of you who have attended an annual meeting of the British Medical Association have, no doubt, received an invitation to a non-alcoholic feast which is held for the encouragement, the countenance, and the advocacy of the

cult of total abstinence from alcohol. It is very significant that this non-alcoholic banquet always takes the form of a breakfast. It is held first thing in the morning. The abstainers, you see, are wise in their own generation. In the morning the stimulus of alcohol is not needed. Its absence is not felt. The speeches, so far as my recollection serves me, are not much more dull, nor is the audience much more bored, than they are at the aunual dinner of the Association; but what the funeral gloom of a teetotal public dinner would be, the Medical Temperance Society has wisely not endeavoured to test.

In further corroboration of my thesis that the effect of moderate doses of alcohol is to stimulate the mental faculties, of those who possess mental faculties, and stimulate those faculties which some thing the highest, such, as imagination, fancy, picturesque imagery—the artistic faculties as we may call them—I point to the fact that there has never been one distinguished originator in any branch of art who did not take alcohol, at least in moderation, and many have taken it, alas! in excess. It is the fact, indisputable if lamentable, that it is the great nations, the victorious nations, the progressive nations, the nations that are in the van of civilisation, that are the drinking nations. I don't say they are great because they drink, but I do say that this disposes of the argument that a drinking nation is necessarily a decadent nation.

A world of total abstainers might be a decorous world, a virtuous world, and world perhaps a little too conscious of its own merits; but there is no reason to suppose that it would be an uncontentious or unprejudiced world, or a world from which exaggeration of statement, intemperance in speech, or intolerance of opinion would be banished; and there is some evidence to make us anxious lest it should be a drab, inartistic, undecorated world; a world without poetry, without music, without painting, without romance; utterly destitute of humour; taking sadly what pleasures it allowed itself; and rather priding itself on its indifference to the charms of wine, woman, and song.

I should like, if possible, though I fear the effort is hopeless, to guard myself against misinterpretation. I make no doubt that it will appear in the papers to-morrow that I have advised you all to go home and get blind drunk—and that you followed the advice. I make no doubt that I shall leave this room with the reputation of an habitual drunkard, and that I shall be known in future as the Dop Doctor; for there is a considerable section of my countrymen who cannot distinguish between moderation and excess either in drinking, or in statement, or in anything effec. I must put up with that, however, and fortify myself as best I can with the consciousness, which I hope you will share with me, that all I have said is to urge that we should appreciate and value at their actual worth, no more and no cless, the kindly fruits of the earth, so as in due time we may enjoy them.—The Lancet, November 30, 1912.

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GONORRHEA AND CIVILIZATION.

By H. R. BESEMER, M.D., Ithaca, N. Y.

Gonorrhea is the most deadly single disease we have. It is estimated conservatively that there are at present in the United States ten thousand persons blind of ophthalmia neonatorum. The large hospitals give out statistics that from 72 to 84 per cent. of their operative work is due to the gonococcus. Statistics of the German Army, published some time ago, show the estimate that nine men out of ten are infected with gonorrhea before the age of 20. Statistics of the U.S. Army, from the Surgeon General's Report of 1910 show that in the army, of all other contagious and infectious cases combined there were 3,787; of venereal disease 11,211.

Gonorrhea is the common cause of acute and chronic rheumatisms, and a considerable factor in sudden deaths from heart failure. It is the disposing factor of greatest single importance in pus-kidney, extra-uterine pregnancy, cystic ovaries, and many cases of chronic nephritis. Gonorrhea gives us nearly allof our salpingitis cases, with resultant unsexing of the patient in a large per cent: of cases. Gonorrhea prepares the way for

tuberculosis, for tuberculosis is becoming to be recognized more and more as a terminal infection.

It is conservatively safe to say then, that gonorrhea kills in the year, more people than all the other contagious and infectious diseases together. It is safe to say that even if it does not kill, it mains, and prepares the way for other deadly diseases. Now, we have gone to great lengths to stamp out smallpox; we are spending thousands for an educational campaign for the cure of tuberculosis,—and here is 'a disease more loathsome, more deadly, and more important than either—and we hesitate to put it where it belongs.

Why?

This problem appeared very simple to me eight years ago, when I suggested to our local board of health that we ought to put gonorrhea on the list of contagious diseases to be reported. I felt that this step was surely coming in time, and I wanted Ithaca to be the pioneer city to do it. My idea was not so much to thus accomplish much in the way of cure, as it was to make the idea common that these cases were reportable, and I felt that the knowledge alone of this fact would be educational and deterrent—even if the physicians did refuse to report all their cases, and even if the board of health were powerless to quarantine any except the most vicious cases.

And I have not yet recovered from the storm of wrath that my resolution called forth.

It almost seems to me that there is something sacred about gonorrhea, that it is in some way one of those "inalienable rights" our Constitution promises us. And when "Pearsons" began printing articles on the subject I wrote them (without result) suggesting that they call this disease, not the "black plague" but the "sacred sickness." I felt that this title at least was due it, so carefully is it protected by our civilized institutions—so loth are we to interfere.

And in thinking this over I decided there were at least three great institutions of our civilization that stand more or less indeently in the way of a campaign against gonorrhea—three

great institutions that protect and aid in the dissemination of generales.

First, the Church, in its theory of marriage and divorce.

Marriage to the established church is a "sacrament," and is for life—and for yet another life. The church theory does not recognize the fact that gonorrhea in one of the bridar pair defeats the one sacred end and aim of marriage. The church does not inquire if the parties to be married are fit to be married or not—it simply inquires as to certain mental states or reservations which have little or nothing to do with the physiology of sex or the rearing of children.

Divorce also is condemned by the church as the great "evil" not to be permitted under any circumstances, thus making it a sacred duty for man and woman to attempt the physically and morally impossible feat of living together under this neckyoke of gonorrheal protection.

The second great institution is our law.

The law has largely to do with rights and is uniformly silent as to duties. The law of our land practically holds that any person has a perfectly good right to maintain a generrhea by refusing to include generrhea among the methods of assault by virulent animal poison, and by refusing to class it among the "mayhem laws." Especially is the law in the way of any campaign against the geneocccus, when it closes the mouth of the physician by its "privileged communication" farces; so that physician is by law, and usually unwillingly, the beacon light of ignorance, deception and fraud to his patients in this disease.

And third, business.

Business is that branch of our modern life that is looking for profits—and profits are endangered if there be any outbreak of any epidemic. Business protects gonorrhea against attack just as business is always ready to suppress news of a small-pox epidemic, and just as business is usually ready to feed its victims polluted water and poisoned meat in order to keep "trade."

Business has gone further—prostitution has been made into a

business, organised and conducted by the most approved business methods, and the precedent is bad. So that if I start out tomorrow to report and quarantine gonorrhea, I meet with opposition of these three kinds.

The Church would say—"You are putting health above religion, you are attacking the holy institution of marriage—you are breaking up the home—you are atheist, infidel, anti-Christ, and damned."

The Law says to me—"You have no right to report or even speak about these cases. I shall bring action against you for slander if you dare say one word about this woman's disease to protect her future husband—I shall bring action for slander if you defame this man in order to protect this woman's sex, mother-hood or life."

And Business says to me flat!y—"Shut up—all this muck-raking is injuring profits—shut up or I shall have to take your job away from you and discredit you generally."

Thus gonorrhea is truly a "sacred sickness" as I believe it was once called in Asia Minor ages ago, owing to the fact of its dissemination from the temples under the accredited rites and practices of the religion of the time.

Gonorrhea is thus, in one point of view, the one important disease that is breaking up our civilization; and in another point of view, gonorrhea may be the evolutionary force that is limiting procreation in the interests of the biologic law that organisms tend to increase faster than their food supply, and is thus beneficent.

Taking the latter point of view we must bow to accepted opinions and do nothing, which is about what we are doing, and allow gonorrhea to work out this biologic law, regardless of our ideals of health and children. On the former point of view, if it is breaking up our civilization, it is our sacred right to attack it, eliminate it, stamp it out, regardless of any institution whatsoever.

Now, in talking with an eminent jurist about the fallacies and imbecilities of the law, he took the stand that law, after all

was but a reflection of public opinion—and usually behind—that in reality, also, both the Church and business were but reflections of this same public opinion, and he added—"For public opinion we have first of all evolution going on and we have education"—This seems to be the opinion of most good thinkers, and yet we must pause and ask by whom is this education to be given. Parents, physicians, or in the schools?

Education by the physician can do very little; we cannot reach the children we need to educate until it is too late. By the time we get them they are already educated, falsely of course, but very thoroughly. Education must begin in the school. At what age and by whom? Our children enter school at about seven, and are taught physiology by young ladies whose highest ambition is to keep as far as possible away from venereal disease and any discussion of it, out of school books that are poems in prudery and totally lacking in facts. No, education must begin at home, by the parent.

Out of our ninety-six million Americans, how many parents are capable of telling a child the real facts of sex life and sex hygiene? How many of these fathers have had gonorrhea and make a joke of it when "mother" is not around? How many advise their boys that it is a manly thing to have had the disease? And how many of these parents are fitted to say more than two words on the subject to their girls?

Theoretically, the "home" is the right place for this instruction if it be the Right Kind of a Home.

Two per cent. of America, owning 74 per cent. of America can afford this instruction, but apparently do not care for it. Sixteen per cent. the so-called submerged tenth, have every reason to dodge education that would interfere with their children growing up successful thieves and prosperous prostitutes. The remainder of America includes perhaps 24 percent, or less than a quarter of us, that might instruct our children—and these are the children that do not need it. That leaves 68 per cent. of America that has neither ability nor time to give this instruc-

tion in the home. Evidently then "education" at the present time means a campaign similar to the tuberculosis campaign—a...campaign of education for all classes, and all conditions, looking ahead to the time when it shall be considered "good form" for our children to be instructed in good homes by good parents, and in good ways.

This seems a roundabout way of getting at the real problem, this seems like procrastination which is always bad, and could sometimes be called almost cowardly. The real problem is the elimination of gonorrhea; the real obstacle is public opinion and the three institutions that are innocently standing in our way: the Church, Law and Business.

To take a further analysis, these three all centre around a fourth institution. The church resents our efforts because we are attacking the sanctity of marriage; the Law is concerned more with the rights of sexual intercourse than with the question of healthy children in marriage and Business finds more profit apparently in mixed than in clean marriages.

Now just what is marriage?

Fortunately we are not obliged to limit ourselves to the prevailing views, for marriage like everything else has had a past. It has a geneology and has had evolution, and this has been studied most carefully by Morgan, Frazer and other anthropologists, and we must assume that they are fairly correct or as Mark Twain would say—"if this particular institution did not actually exist at this time, you may be sure there existed a worse one."

All the anthropologists agree that our first form of human marriage was communistic. Every man was the husband of every woman and every woman the wife of every man. We were also all cannibals, the children were common property, for there was not yet any property. Acts of sex intercourse and childbirth were not yet connected philosophically, and sexual intercourse was absolutely, indiscriminate at all ages. Thus there was really no love, marriage or divorce as we know them,

but there was an institution including all these things to be inlater ages.

The first great social revolution, occupying perhaps ages of time, was fought out to connect acts of intercourse with child-birth. From the belief that the "totem" sprang into the mother's womb at the time of her first feeling life, we came to the belief that the child also had a father. The next great social revolution was a battle to limit the number of persons a given person might "marry," and this revolution finally ruled out all generations except the one of the person marrying. These two revolutions bring us the "group marriage," the supremacy of woman in the house and in society; this was the age of the barbaric mother-woman, of the fabled Amazon, of the Anglo-Saxon heroines, etc., etc. We do not get a real "marriage," nor love, nor divorce, but we now have the beginning of the noblest sentiment yet evolved by humanity, the mother-love of the barbarian.

The next great social revolution came with group wars, as distinguished from the individual wars of previous time; wars of property. The successful leaders brought back women captives who were killed and eaten or in later times used as concubines: they brought back men captives who were first eaten but in later years made into slaves. Finally, the superfluity of women made the beginnings of prostitution, and the use of men started slavery. This was undoubtedly the greatest revolution and upheaval of all history, and the ages it consumed can hardly be reckoned; but in the end the insurgent party of the time won. and we find a consistent, social condition again, when the supremacy of man over woman came into the world contemporaneously with slavery, prostitution and property. Marriage is now "patriarchal," the man is the property owner and head of the house, and has many wives. Woman is still the motherwoman, and at same time the slave.

And here is the beginning of the two moral standards for man and woman. Sexual intercourse is unlimited for the man because he "owned" the woman—limited for the woman to one



man to make her more valuable to the man. And naturally, momen competing for favors of man gives us the beginnings of prostitution.

This is the age of the Early Romans, and of the Patriarchs of the Bible.

The next great social revolution we are yet in—the fight by the radicals to establish monogamy, or the ideal that man does not need many wives any more than woman needs many husbands. Whether it be the results of religious teachings, or whether it be the results of the problems of the ever-present feeding ground," or whether it is just evolution toward something better, is of no consequence—the fact remains that we are approaching monogamy.

Now, in this last revolution has occurred a counter revolution that confuses confusion. In the Middle Ages, monogamy was preached but not yet practiced; men went away to the wars, gallants seduced their wives, and the poets sang of it, and the artists painted it, and the music sanctified it—and we get for the first time in the history of humanity, "love." Love as we understand it to-day was born over night and grew luxuriantly and exotically. Not the "love" of the biologist, which is a normal function for the reproduction of species, not the "mother love" of the barbarian, which is common to the female of every species, but a romantically vicious, religiously unsound, scientifically false "love," which is best described as the "glorification of adultery." And we are suffering yet from the artistic and literary efforts of the leaders of this revolution, which in one way was a protest against the double standard of morality of former times, and thus working toward monogamy, in another way the cleverest way of breaking down the slowly forming idea of monogamy. So we now, in the 20th century have a certain custom called marriage, which to us seems fixed and unalterable, but which anthropology shows us has been in constant flux and war. Is there any certainty that our present marriage is any more stable than the others have been, or that are not, in spite of ourselves, developing into another (and

of course better) ideal of marriage? For what have we now? We inherit every one of us, in varying degrees, elements of all these marriages.

We inherit the unlimited sex intercourse of the savage.

We inherit the innate nobility of the barbaric mother woman.

We inherit the unbridled license of the slave-owning patriarch.

We inherit the "for sale" sign of the prostitute.

We inherit the medieval adultery-love.

We inherit polygamy, and monogamy, and the double standard.

In short we inherit every contradictory thing that can be imagined from the freedom of savagery and the mother love of barbarism to the lust, prostitution and adultery of civilization; and all these things must be accounted for in us and in our marriage.

The careful student will conclude then, that marriage is neither fixed nor sacred, that each form of marriage, however licentious and immoral we now regard it, was the best possible form of marriage at any given time for the production of children at that time, that marriage has had a constant history of ruling out group after group that might marry, and that the marriage of the future will follow the same course.

What more is to be ruled out?

We now marry for love, money and a home.

If this "love" means medieval adultery, those groups must go, for such love has no biologic excuse.

Money means prostitution, and that will have to go; for what is the ethical difference between the woman who sells herself to one man in marriage, and the woman who sells herself to many men in prostitution? For prostitution has no race value.

That will leave us two excuses in one for marriage, those of, a physiological sex function, and the production of children, that is a home.

And is not that our present day ideal?

Now, I have gone to this great and tiresome length concerning marriage to, bring out clearly the point that gonorrhee

attacks humanity in exactly these two points. Gonorrhea destroys the physiological use of the normal sex hunger instinct, and gonorrhea destroys the function of normal child bearing.

Is it not perfectly plain then that it is a question of—wiping out gonorrhea, or wiping out humanity?

And to my mind all the other great social questions of the day are but side issues of this.

Marriage can never be made decent until gonorrhea is known, quarantined and cured. Divorce, the great evil, will cease to be no evil when it is extended to include all cases of gonorrhea. Prostitution can never be stopped so long as there are always ready six "patriarchs" to support and cherish each prostitute. Prostitution can only be regulated by quarantining the gonorrheal prostitute.

Eugenics becomes a simpler problem, if the child is assured a non-genorrheal chance before and after birth.

Suffragettes may not admit it but is not their grasping for political power simply one way of compelling the father of their children to sue for their hand, uninfected with genorrhea?

And if one is inclined to think the times are not ripe for this coming "social revolution," I want to say that things are not so bad practically as I have made them philosophically. We have first of all a most efficient board of health, and with powers that are almost imperial. The health law is gradually growing into an antithesis of the age-old law of private rights and personal liberty; it is growing into the ideal of sacrificing personal rights for the common good. Thus public opinion is gradually bringing the best lawyers and judges to the side of publicity of contagious disease so that, the ban of silence may be taken off the physician. And the church though logically compelled to ignore infection as a ban to marriage and as a sufficient cause for divorce, is developing here and there individual men who insist on just this point, notably the Rev. Waller T. Sumner of Chicago, and Rev. Lyman Powell, of Northampton, Mass. And business will always hustle to

appreciate profits when it is clear that better profits come from better sanitation.

So I wish to maintain that it is our duty as physicians and as biologists to take off our kid gloves of hypocrisy and our sanctified raiment of prudery, and attack this problem where it needs to be attacked. Go as slow as you like, but start in the right direction. Call a spade a spade—call gonorrhea a contagious disease and order it reported—and see what happens.—The North American Journal of Hommopathy, December, 1912.

A REVIEW OF THE QUESTION OF BELLADONNA AS A PROPHYLACTIC IN SCARLET FEVER.

By Conard Wesselhoeft 2nd, M.D.,

Boston Mass.

During the past year much has been written in regard to the relation of the homœopathic materia medica to antitoxins and vaccines. Serum therapy and vaccine therapy have been used not only as remedial agencies during disease, but have been found to be of service in protecting exposed persons from disease. This brings up the old question as to whether drugs administered in small doses can induce in healthy individuals a degree of immunity toward pathologic conditions—especially infections -for which the drug used is pathognomonic. Or, in our more modern parlance, can a drug stimulate the production of an antitoxin to a disease to which its pathogenesis offers a similar? It is interesting at this time to review the literature on this subject as regards one of our best known drugs; namely, belladonna, which during fifty years of the last century was considered by both schools of medicine to be a valuable prophylactic against scarlet fever.

Let us first turn to the clinical side of the discussion. During an epidemic of scarlet fever in 1799 Hahnemann noticed that a child who was taking belladonna for a joint affection escaped scarlet fever, while four children of the same family were invaded by this contagious disease. He promptly gave this

remedy to the five remaining children in the family who had not contracted scarlet fever, with the result that they did not contract the disease. This was the beginning of his clinical research, which he later elaborated, of the prophylactic action of belladonna against scarlet fever. He recommends that it be given as a prophylactic in doses which correspond approximately to our sixth decimal dilution once in every twenty-four hours at first, later every seventy-two hours, to be continued while the epidemic lasts. He emphasizes the point that belladonna can only be expected to give prophylaxis to the true smooth scarlet fever of Sydenham, to which the drug offers a similar.

In 1825, Hufeland published the statistics of 881 cases to whom the drug was given to protect against scarlet fever, of whom only 38 were attacked, and the great majority of these but mildly.

In 1830, Baylle collected all the published evidence on the subject, giving 2,027 children and adults who made use of this drug as a prophylactic during epidemics of scarlet fever, of whom 1948 escaped the disease and 79 contracted it.

In 1840-41, Stievenart of Valencienues reports that during an epidemic 200 persons out of 250 took belladonna and escaped the fever, while fourteen of the remaining fifty were attacked and four died.

In 1846. Ewing and Hardy reported that during an epidemic in Buncombe County, South Carolina, 250 children were given belladonna, and of this number less than half a dozen had the disease, and they but mildly, while those families whick did not take it were, with scarcely an exception, affected.

Dudgeon, in 1854, cited statistics of ten impartial observers not of the homeopathic school. Out of 1758 children to whom belladonna was given during epidemics, 108 contracted scarlet fever.

In 1857, Morris of Philadelphia gave the medicine to one half of the children under his care at the Preston Retreat. Fifty-three per cent. of these were attacked while seventy-three

per cent. of the remaining half were attacked by the disease. In the same year Alley tried this procedure in the Orphans' Asylum of Boston, and found that the administration of the drug made no apparent difference in the susceptibility to the disease. Other dissentients, including Galfour and other eminent persons, have evidently not formed their opinions from any enlarged personal experience, but from a predisposed distrust of anything along homeopathic lines.

Stille, in 1868, after heaping slander and ridicule on Hahnemann, his followers and homosopathy in general, expresses himself in the following terms: "On a review of the whole subject, we feel bound to express the conviction that the virtues of belladonna as a protection against scarletina are so far proven that it becomes the duty of practitioners to invoke their aid whenever the disease breaks out in a locality where there are persons liable to the contagion." He recommends that one to three grains of the extract of belladonna be dissolved in an ounce of cinnamon water, adding a few drops of alcohol to prevent fermentation. "Of this solution may be given, two or three times a day one drop for each year of the child's age, to be administered for two weeks or longer, if the danger should continue. It is not pretended, then, that the protection such as it is, is permanent." The minimum dose recommended, then. is for an infant one year old about half way between the second and third decimal dilution; for a child ten years old, between our first and second dilutions. This, he admits is a minute dose. but one which will produce belladonna symptoms, and not one of "the phantom doses of homeopathy."

H. C. Wood, in his "Therapeutics," published in 1891, professes to have no faith in the efficacy of belladonna in this capacity, stating that he has never had an opportunity to test it, but he recommends that it be tried out further. Hughes, in his "Principles and Practice of Homesopathy," published in 1902, concludes that the weight of evidence is in favor of the power of belladonna to protect against, or to render mil'er, the Sydenham type of scarlet fever.

Coming down to the writings of the present day, we find that Cushny ignores the subject, while Bartlett, representing the so-called "modern homocopathic school," maintains that while the administration of belladonna as a prophylactic in scarlet fever is not objectionable, the evidence is not such as to warrant much reliance on its efficacy. If in recent years this possible property of the drug has been tried out the failures have not been published. Lange in 1911, in a treatise on scarlet fever, mentions the use of the carbonate of ammonia having been used with the idea of a prophylactic in scarlet fever and takes up the similar use of belladonna. He says today few believe in this property of belladonna since "we knew of no other medicine acting in this way." He adds, however, that it is difficult to draw definite conclusions on the subject because of our meager knowledge of the causative factor of the disease in question.

With the growing importance of laboratory research we must turn to the effects of belladonna animals. We find that herbivora as a rule are less susceptible to this drug than carnivora. Sheep, goats and rabbits relish belladonna leaves. Wood states that rabbits may be fed for days entirely upon belladonna leaves, and Fuller's experiments indicate that these animals show a marked tolerance to this drug even when the tincture is administered subcutaneously. Horses stand belladonna comparatively well, but cows are somewhat more susceptible. Dogs and cats are comparatively susceptable. The author has been unable to find any records as to the susceptibility of monkeys to this drug. These animals are hardly carnivora, but they usually live on a high proteid diet consisting mostly of nuts.

The question now arises as to whether animals may contract scarlet fever and if so which ones are most susceptible. It was thought at one time that cows sometimes exhibited a low grade of scarlet fever, the manifestations of which were confined to the udders, and that epidemics of this disease were spread through the milk to human beings in whom the disease took on its usual form. This was shown to be very doubtful

by Griffith in 1909 and Crookshank holds that this was cowpox. Rotch states that the contagion of scarlet fever occurs and may be transmitted by cats and dogs.

Coming now to more concrete writings on this part of the subject, we find that the laboratory has yielded rather perplexing and conflicting results. Greenbaum states he "infected" rhesus monkeys and rabbits with the heart blood removed shortly after death with a syringe from scarlet fever patients, but was unable to infect other animals. He does not qualify how the monkeys and rabbits showed the infection, or what other animals were used. He states that the streptococcus isolated proved very fatal to rabbits but that it only caused suppuration in monkeys. A swab from a scarlet fever sore throat applied to a chimpanzee's throat gave an angina and a "doubtful roseola." Bernhardt claims to have induced apparently typical scarlet fever in monkeys by inoculation with scrapings from the tongue of scarlet fever patients. "scarlet fever" consisted of a skin eruption, a strawberry tongue and streptococcus sepsis. By inoculation, again, from scrapings of their tongues he produced the same condition in other monkeys. Hekton, on the other hand, tried to infect three rhesus monkeys by feeding them milk in which swabs from scarlet fever throats were washed off. All three became sick and two died but none of them, either by clinical picture or by rutopsy, could be said to have had scarlet fever. Bacteriological examination revealed no streptococcus anywhere.

Discarding the results of Greenbaum's injections of streptococcas into rabbits as outside the question at issue, we find that the only herbivora which have been suspected to have scarlet fever are cows, and these animals, if they have it at all, exhibit a very low grade form of the disease. Moreover, as herbivora they are comparatively susceptible to belladonna. Among the carnivora, cats and dogs are mentioned as possible subject of scarlet fever. It is interesting, then, to note that herbivora which are least susceptible to belladonna are thought to have the disease only in a low grade form, while carnivora

which are more susceptible to belladonna are thought by some to contract the disease and convey the genuine article to mankind.

The most talked of prophylactic against scarlet fever to-day is streptococcus vaccine. This brings us to the consideration of the causative factor of this disease. In the first place, the predominant bacteriological feature is the almost constant presence in the throat of large numbers of streptococcus pyogenes. In the second place, the great majority of the complications which arise are due to streptococcus invasions. Finally, Hektoen has shown that the streptococcus opsonic index is below normal during the acute stage of the disease, but as the symptoms subside the index rises above normal, to which the return may be more or less abrupt. If complicating streptococcus localization sets in, the index remains low until improvement begins.

There are obstacles to the acceptance of the streptococcus theory of scarlet fever. Small pox when fatal is practically always associated with streptococcus invasion so that it has been suggested that small pox is a streptococcus disease, but small pox has been produced in monkeys by materials entirely free from streptococci, which by themselves do not produce the disease. Hence, we are safer in limiting ourselves to the assumption that the streptococcus is a concomitant or secondary invader for the growth and activity of which the conditions in scarlet fever are peculiarly favorable.

Mallory thought he had found the causative factor of scarlet fever when he discovered certain "protozoan-like" bodies in the post mortem tissues. Field, however, continued in these researches, and concluded that what Mallory had found were the products of degenerating tissue cells and of leucocytes, and occurred in measles as well as scarlet fever. Needless to say, the discovery of these bodies have not led to the introduction of any prophylactic measures.

On the other hand, the streptococcus theory has instigated the streptococcus vaccine. (Anti-streptococcus serum

has not been sufficiently used as a prophylactic to give it consideration here). The vaccine has already been tried out on several thousand cases, and the reports are very similar although more favorable than the statistics in regard to the use of belladonna out of 2206 adults and children in Russia who were given streptococcus vaccine only 19 contracted scarlet fever.

Gabritschewsky of Moscow claims that this vaccine is able to induce an erythema with sore throat vomiting and raspberry tongue resembling in every respect that of scarlet fever, but it is milder, runs a more rapid course and is not contagious. Kolmer immunized about 350 people in Philadelphia one year ago by the Russian method; fourteen of these cases developed rashes suggestive of scarlet fever. Watters reports that of 21: nurses serving in scarlet fever wards at the Massachusetts Homecopathic Hospital who were given streptococcus vaccine only one contracted the disease. Watters' immunizations showed nothing suggestive of scarlet fever. If we consider the present advance in hygienic measures relative to the prophylaxis of contagious diseases as compared to the lack of precautions taken in the first half of the last century, we must admit that the statistics: of belladonna as a prophylactic in scarlet fever compare favorably with those of streptococcus vaccine.

The therapeutic nihilists of to-day who decry the use of drugs in medicine, and those zealous enthusiasts who see the dawn of a complete revolution in the art of healing in serum therapy naturally agree with Lange when he says that we know of no druge which protect the body as belladonna is thought to do in scarlet fever. Such therapeutic nihilists as scoff at, the use of all drugs except mercury, quinine and opium, but who, in their practice, prescribe the most absurd prescriptions, and proprietary frauds will, of course, continue to despise the use of belladonna in the capacity of a prophylactic in scarlet fever; but to those who make intelligent use of serum and vaccine therapy, and to the physicians whose minds are adapted to even a very limited acceptance of the rule "similia similibus curentur," the proposition should not be considered impossible.

So far as Lange's argument is concerned, we find Sajous explaining the curative action of arsenic in intermittent fever,. and the beneficial effects of mercury in syphilis, to be due to the action of these drugs in increasing the auto-antitoxin of the blood whether it be to destroy a micro-organism and its toxin or endo-toxins, toxic waste products, etc. He writes, "The reported beneficial effects from the use of atropine in infectious erysipelas, scarlet fever, etc., are doubtless due to the fact that it increases the antitoxic properties of the blood." it is considered possible that mineral and vegetable drugs can promote the production of auto-antitoxi in disease, why it is not reasonable to consider the possibility of their acting as prophylactics? Serum therapy and vaccination do not always have to be specific and autogenous to do good. Cowpox is only similar to small-pox. Moreover, one attack of scarlet fever does not always confer immunity to later attacks. McCollum states that 1.5 per cent. of his 5,000 cases had recurrent attacks and 5 per cent. had two attacks.

To conclude, therefore, we must wait until the causative factor of sarlet fever is found before we can hope to have a specific serum or vaccine which will act as a prophylactic, and until then belladonna by its pathogenesis should hold its place in this capacity with as much justification as Gabritschewsky's vaccine, and the streptococcus stock vaccine may be used, not as a prophylactic to scarlet fever, but as a prophylactic against the usual complications which arise in its course.

Note:—This review was made preparatory to some laboratory experiments but since its completion the author considers any "animal experimentation in regard to the prophylactic use of belladonna to be useless until the causative factor of scarlet fever has been definitely, isolated.

The North American Journal of Homeopathy, November, 1912.

EDITOR'S NOTES.

Shakespeare and Sleep.

Not so long ago critics were practically agreed that Shakespeare never allowed even the shadow of his own personality to show on the mirror which he held up to Nature. Every one knows Matthew Arnold's sonnet.

Others abide our question: thou art free. We ask and ask—Thou smilest and art still Out-topping knowledge.

Now it is coming to be seen that, even if Shakespeare did not. as Mr. Frank Harris contends, portray himself in various disguises in many of his characters, we get at least some glimpses of "the man Shakespeare" in the plays. One example of this is the habit of brooding on death, of which there are many examples. In most of us there is what may be called a subsoil water of thought, or it may be feeling, into which the mind, when not occupied with other things, is apt to fall. Long ago it was pointed out by Professor David Masson that when the soul of Shakespeare "swooned into itself" the thought of the sleep of death and what dreams might come in it would rise to the surface. It is scarcely within our province to discuss the supposed self-revelations of the dramatist, but we may be allowed to call attention to a thing on which he dwells with such insistence that we cannot help thinking he gives expression to a personal experience. This is sleep. What poet has described insomnia as Shakespeare has done, not once but over and over again? There is the famous soliloguy of Henry IV beginning-

How many thousand of my poorest subjects
Are at this hour asleep! O sleep, O gentle sleep!
Nature's soft nurse, how have I frighted thee,
That thou no more wilt weigh my eyeids down,
And steep my senses in forgetfulness?

When troubles gather round Macbeth, his wife says to him:

You lack the season of all natures, sleep.

Then there is Macbeth's terrible sob of remorse after the murder:

Methought I heard a voice cry, Sleep no more!

Macbeth doth murder sleep, the innocent sleep;

Sleep that knits up the ravelled sleeve of care,

The death of each day's life, sore labour's bath,

Balm of hurt minds, great Nature's second course;

Chief nourisher in life's feast.

Then like the wail of a lost soul :

Still it cried, Sleep no more to all the house. Glamis hath murdered sleep and therefore Cawdor Shall sleep no more. Macbeth shall sleep nor more.

Iago, when his poison is working in Othello's spirit, says exultingly:

Not poppy nor mandragora.

Nor all the drowsy syrups of the world, Shall ever medicine thee to that sweet sleep Which thou ow'st vesterday.

In the Sonnets, in which we prefer to believe, with Wordsworth, even against Browning, that Shakespeare unlocked his heart, there are several references to the same subject. In the twenty-seventh we have the true note of the worst form of sleeplessness:

Weary with toil I haste me to my bed,
The dear repose for limbs with travel tired.
But then begins a journey in my head
To work my mind when body's work's expired.

In the next one he says:

How can I then return in happy plight
That am debarr'd the benefit of rest?
When day's oppression is not eased by night,
But day by night, and night by day oppress'd?

These are but a few instances which might be gathered from the poet's works, in which, speaking of sleep, "he call'd him soft names in many a mused rhyme." In reading medical writings referring to insomnia it is easy for one who knows what it is from his own experience to distinguish between those who bear the sears and those who have never felt the wound. One justly famous and most humane surgeon says that if a man sleeps ill one night he can make up for it the next: we find the explanation of this want of sympathetic insight in his statement that he had two sleepless nights in his life. Although Shakespeare is said to have trod the world unguessed at we hazard the guess from the ever-recurring note of the blessedness of sleep that the "myriad-minded man" who saw into the very depths of human nature by intuition had himself told the weary footsteps of the hours through many a sleepless night.—The British Medical Journal, November 16, 1912.

The Race of Life.

There is a striking passage in Oliver Wendell Holmes's Autocrat of the Breakfast Table. Although it must be familiar to all admirers of the writer in whom, like righteousness and peace, medicine and literature met and kissed, it will still bear partial quotation. Holmes says: "Nothing strikes one more in the race of life than to see how many give out in the first half of the course. Commencement Day always reminds me of the start for the Derby, when the beautiful high-bred three year olds of the season are brought up for tridl. That day is the start, and life is the race. Here we are at Cambridge. and the class is just graduating. . . . Ten years gone, first turn in the race, a few broken down, two or three bolted. Several show in advance of the ruck. Cassock, a black colt, seems to be ahead of the rest. Those black colts commonly get the start I have noticed of the others in the first quarter. Meteor has pulled up. Twenty years. Second corner turned. Cassock has dropped from the front and Judex, an iron grey, has the lead. But look how they have thinned out, down flat-five-six-how many? They lie still enough; they will not get up again in this race. Thirty years. Third corner turned. Dives, bright sorrel. begins to make play fast. . . . But who is that other one that has been lengthening his stride from the first, and now shows close up to the front? Don't you remember the quiet brown colt, Asteroid. with the star on his forehead? That is he. He is one of the sort The black 'colt' as we used to call that last; look out for him. him, is in the back ground, taking it easily in a gentie trot. is one they used to call the filly on account of a certain feminine air he had. Well up, you see. The filly is not to be despised, my boy. Forty years. More dropping off, but places much as before. Fifty years. Race over. All that are on the course are coming in at a walk. No more running. Who is ahead? Ahead! and the winning post a slab of white or grey stone, standing out from that turf where there is no more jockeying or straining for victory. Well, the world marks their places in its betting book. but be sure that these matter very little if they have run as well as they knew how."

The exclamation of Abernethy on entering his crowded lecture theatre one October, "Good God, gentlemen! What is to become of you all;" is historical. Various attempts have been made to inswer this question. The most thoroughgoing is that of Sir James

Paget. In the St. Bartholomew's Hospital Reports for 1869 he published a short paper entitled, "What Becomes of Medical Students?" In which he gave the results of an inquiry as to the careers of a thousand of his old pupils up to fifteen years after they entered the school. Of the whole number, 23 achieved distinguished success. 66 considerable success, 507 fair success, 124 very limited success, 56 failed entirely, 96 left the profession, 87 died within twelve years of beginning practice, 41 died during their period of studentship. Of the 41 who died, 4 fell victims to fever caught in the hospital. Of the 87 who were taken away early in their career as practitioners, 21 died of "diseases incurred in their duties." From these figures, which may be taken as representative, it will be seen that, while comparatively few achieved considerable success, more than half were fairly successful. It may be said here that "considerable success" is ascribed by Paget to those who gained high positions in the public services or leading practices in good districts, or who retired with money earned in practice, or gained much more than ordinary esteem and influence in society. "Fair success" is defined as having a practice that enables a man to live, maintaining a good reputation. or holding ordinary appointments in the public success. The number of these who for one reason or another fell by the way is relatively Paget's statisties may be compared with the results of an inquiry made by Dr. Squire Sprigge, and published by him in his book. Medicine and the Public (London, 1905): Of 250 men who entered a well-known London hospital in 1870, 187 qualified and 63 did not qualify. Of the 187, 9 met with distinguished success, 45 with considerable success, 25 with fair success in the services -2 of these might be included in a higher class; 46 met with fair success in practice, 5 left the profession after qualification, 6 discontinued medical study as pupils, 2 died during pupilage, 23 died within twelve years of commencing practice, and 6 failed entirely. "considerable" and "fair" successes are added together. The conclusion is that 116 men out of 187-that is, 66 per cent. of qualified medical men from one metropolitan medical school "have reason to be satisfied with their professional careers."

To few is it given to reach the highest pinnacle of success. The race is to the swift and the battle to the strong; but the factor of survival also comes into play. A man is often left at the top because death has swept away those who might have disputed the pride of place with him. And of those who die in their youth, there must always be some of whom we might say, as Newton said

of the young mathematician who died in his 34th year." If Cotes had lived we might have known something!"

If we are asked. What constitutes success? Our reply is that we agree generally with Sir James Paget. If it is to be measured by the amount of money made, there are many quacks who are more "successful" than most doctors. Success should be estimated by the amount of good done, by the respect and confidence of the profession, by honestly won reputation among the public, and by the fragrance of actions which smell sweet and blossom in the dust. To gain success of this kind a man must, of course, have a sound knowledge of his work and must know how to apply that knowledge. But something more is required. The "good bedside manner" is often referred to by novelists as if it were merely the art of ingratiating oneself with the patient and his friends. It is often implied that it is nothing more than diplomacy of a somewhat doubtful character and even that there is in it a touch of charlatanism undeniable that this is occasionally the case, but it is more often the patient's fault than the dcctor's. There are persons who cannot bear it even to be hinted that there is anything about them that smells of humanity. In handling such a situation diplomacy is called for in the patient's own interest.

Sir William Jenner, who was incapable of artifice of any kind. used to say that the manner mattered little as long as the doctor was in earnest and conveyed the impression that he was putting forth all his knowledge and skill for the benefit of the sufferer. the man who, "having been praised for bluntness, doth affect a saucy roughness," may drive a patient weakened by suffering to despair. Abernethy's manner was worth a thousand a year to Astley Cooper, according to the testimony of Cooper himself. The secret of the "good bedside manner" in the right sense of the phrase is the power of impressing one's personality on the patient so as to inspire him with the confidence and the lively hope of cure that play so large a part in recovery from illness. This, whether it be called "personal magnetism" or "suggestion," is a positive though indefinable, quality. Without it mere scientific knowledge is of little avail. It makes the difference between the successful and the unsuccessful doctor. Another quality which is essential to success is the possession of a businesslike mind and habits. Sir James Paget said he had known more failures in the medical profession through want of this quality than from any other deficiency; "more than the utterest want of scientific or even of good practical

kowledge." It is almost needless to add that a strict conformity to the highest standards of professional honour is indispensable for such success as an honest man cares to gain. Madame de Maintenou's maxim, Rien n'est puls habile qu'une conduite irréprochable, holds good in regard to the practice of medicine as well as to the slippery paths of Court life. In a word, character tells more than knowledge. As Paget says in commenting on the results of his inquiry: Nothing appears more certain than that the personal character, the very nature, the will of each student has far greater force in determining his career than any helps or hindrances whatever." This is why brilliant students often fall out in the race, leaving the field to the "Asteroids," who make less display at first, but gain quietly and surely on their more showy competitors.—The British Medical Journal, November 16, 1912.

Gleanings from Contemporary Literature.

MODERN COMBAT AGAINST TUBERCULOSIS AMONGST CHILDREN.

Delivered at the Medical School of the Royal Hospital for diseases of the Chest, City-road, London, on Oct. 17th, 1912.

By PROFESSOR DR. NIETNER,

General Secretary of the German Central Committee for the prevention of Tuberculosis.

MR. CHAIRMAN, LADIES, AND GENTLEMEN, -- Before entering upon the subject of my address I wish to express my profound appreciation of the honour that the medical staff and the council of the Royal Hospital for Diseases of the Chest have shown me in inviting me to come here to-day to give the inaugural lecture to the medical school attached to this hospital.

I regard this action on their part as not only a personal honour, but as also honouring all German endeavour in the field of tuberculosis prevention, in the central organisation of which I have the previlege of cooperating. It is for this reason that I overcame certain well-founded scruples. and that I accepted the invitation so cordially extended to me. scruples were two-fold. In the first place, I am painfully conscious of my shortcomings as regards the command of the English tongue, and I entertained the misgiving whether I really could venture on giving you an address in your own language. Only the amiable encouragement of my kind friend, Dr. Barty King, and the conviction that I should find in you indulgent listeners enabled me to conquer this misgiving. My second fear was whether I could tell you, who have so long been ahead of us in Germany in the fight against tuberculosis, anything new or useful. But I believe that an account of all that we have found, in the course of our experience, to be of the greatest practical value in the prevention of tuberculosis may not be without interest to you; and from you again I hope to learn many facts that may help us in our further efforts in Germany. Consequently, I have accepted your invitation with very speat pleasure, and have only again to crave your friendly indulgence.

CAMPAIGN AGAINST TUBERCULOSIS IN VARIOUS COUNTRIES.

Permit me to express sincere and hearty wishes for the just completed new building of this venerable house, by the foundation of which you already began the campaign against tuberculosis in Great Britain in the year 1814. The Royal Hospital now enters on a new era of its existence, as, by the addition of all mordern equipments for scientific research and therapeutic purposes, as well as by the addition of a dispensary and this medical school, it may become a means of great assistance to the population in general as well as to the medical profession. May the hospital in its new form help to deepen our knowledge of taberculosis, that terrible scourage of the people, and so further the interest for the same among physicians that this important disease deserves, which unfortunately until recently has been the stepchild of most clinics. May the hospital and its medical school flourish and prosper to the glory of its founders and for the blessing of the unfortunte consumtives.

After the Royal Hospital, a second with 321 beds was built in Loudon in 1814, and the number of these consumptive hospitals has increased since then very much. Also the first marine hospital for scrofulous patients was opened in England as early as 1799.

By these means and through general improvement in hygienic conditions you have succeeded in reducing your death-rate from tuberculosis more than 50 per cent. during the last 50 years, and from pulmonary tuberculosis, in particular, over 60 per cent.

The important factor in the prevention of the spread of tuberculosis in England has been the removal of advanced cases from their wretched surroundings, thereby reducing the imminent danger of infection amongst members of the same household, efforts being naturally made at the same time to restore the health and wage-earning capacity of those received into the hospitals.

The great general movement towards a systematic campaign against tuberculosis, which could be traced along a variety of convergent lines. began, as is well known, in the middle of the "nineties." It dated with us in Germany from the founding of our Central Committee for the Prevention of Tuberculosis in 1895, and the entire movement became more coördinated after the first International Tuberculosis Congress, which was held in Berlin in 1899 at the suggestion of the German Central Committee.

I may take it for granted that all here present know the broad lines of that movement, both as regards Germany, where we began with the care for the still curable consumptives because the means for so doing lay ready to our hand in the large sums placed at our disposal by the compulsory industrial insurance authorities, and as regards other countries where social insurance had not as yet been introduced. Working on different lines, the several countries who have energetically waged war against the disease can all point to the same encouraging result in the considerable decrease in the death-rate from tuberculosis. We in Germany can show a reduction of over 50 per cent, since the middle of the "eighties."

In all countries the initial efforts were directed against the prevention of tuberculosis among adults. As pulmonary tuberculosis, which is the most common form of the disease, claimed by far the greater number of its victims among persons during the wage-earning period of life, it was generally accepted that infection took place during this period.

PREVALENCE OF JUVENILE TUBERCULOSIS.

Juvenile tuberculosis was regarded as of very much smaller significance. partly because, with the exception of tubercular meningitis, the characteristic forms of the disease in children, which are generally associated with the glands or with the bones and joints, are seldom attended by fatal results, but generally respond to appropriate treatment, and partly because pulmonary tuberculosis at this age is comparatively rare. The researches of the last ten years-those of Roemer, Hamburger, von Pirquet, Schlossmann, and others-have, however, demonstrated the fallacy of these theories by bringing to light facts which point to the conclusion that in a very large majority of cases infection occurs during early childhood, and, indeed, during the first years of life.

While the mortality curve from tuberculosis shows meningitis to be the most frequent form of death for the first year of life-to quote the -figures collected by B. Fraenkel for the years 1908 and 1909—the deaths from this cause steadily decreasing until the tenth year, to rise again, first slowly and then more rapidly from the onset of puberty, the morbidity curve shows a blank for the first year of life. Data on this point are due to the recent illuminating researches, chiefly based on von Pirquet's cutano-reaction, of Baginsky, Daske, Engel and Bauer, Ganghofer Hamburger, Schlossmann, and many others.

With the commencement of the second half year of life the infections Their number increases regularly during the become more frequent. compulsory school age, chiefly after the tenth year, when they reach an alarming height. The number of infections is higher, too, in the older girls' classes than in the corresponding boys' classes. Hamburger, basing his statement on his own researches, declares that up to the completed twelfth year of life 90 per cent, of all children are infected. Daske, who instituted extensive researches into the spread of tuberculosis in the elementary schools in the town of Düsseldorf, found that out of 33,260 children 0.43 per cent. were tuberculousis "suspects" on account of "chronic cough." The majority of the affected children were girls, and most of the children attended schools in the poorest neighbourhoods.

Von Pirquet's cutano-reaction gave positive results in 46.6 per cent, of all the children (43:3 per cent. amongst the boys and 45:4 per cent. amongst the girls). From 6-8 years, in 40.7 per cent.; from 9-11 years, in 43.7 per gent.; and from 12-14 years, in 49.9 per cent.

Engel and Bauer found that among the children of 13 and 14 years who were inmates of the Düsseldorf Children's Asylum, 50 per cent, of the girls and 56 per cent, of the boys exhibited tuberculous symptoms. Ganghofer, in Prague, found that between 7 and 10 years of age and between 11 and 14 years, 70 per cent. of the children examined by him were tuberculous.

Nearly all researches conducted on these lines gave similar resultswithin certain limits of variation, of course.

I have myself made an exhaustive research over a limited area of Germany, the Füristentum Birkenfeld, regarding the spread of tuberculosis in rural communities, in the course of which I submitted all the school children living within that area to von Pirquet's test. The positive

results in these cases varied, generally speaking, between 26 and 67 per cent., but in one badly affected area 87 per cent. was reached in the oldest girls' class. The average lay between 40 and 50 per cent.

The value of von Pirquet's test for such mass examinations amongst children is now almost universally admitted. Hamburger states:—

For individual cases the test may only be regarded as a diagnostic aid, but it is of enormous value in scientific research. It is also the sole available means for discovering the incidence of tuberculous infection amongst school children.

Daske says :---

In the cutano-reaction we have at our disposal a simple, rapid, harmless, and comparatively trustworthy method for the diagnosis of tuberculosis during the period of childhood and one that is of inestimable value to the school doctor in particular.

Should doubts still exist as to the trustworthiness of the cutano-reaction, I can only state that in the area which was examined by me, a medical official in localities which I had not as yet explored arrived at results, by means of purely clinical but very laborious investigations, that accurately coincided with mine regarding the incidence of tuberculosis, mine being attained by the much more rapid and convenient method of cutano-reaction. In other localities, also, where control observations were conducted the results were identical. Similar experiences have been furnished by other countries.

At all events, incontrovertible facts point to so widespread an incidence of tuberculosis amongst children that an energetic and systematic line of action is clearly indicated if we wish fully to attain our object and remove this scourge from humanity, Schlossmann has gone so far as to state that tuberculosis is a true children's disease, which is acquired during the age of childhood, must be prevented during childhood, treated during childhood, and healed during childhood.

Source of Infection.

Now whence is the infection during childhood derived? The fact stands beyond a doubt that in a very large majority of cases the source of infection is the human subject suffering from "open" tuberculosis, and that infection is affected through the close intercourse resulting from family life within the walls of the home. The transmission of infection through hereditary influences and through infected milk and milk products must also claim consideration.

At the present moment the theory of infection transmitted through heredity, of which P. Baumgarten is the most prominent upholder, finds few supporters. The direct evidence of a tuberculous infection in the fectus or in the newly born has been furnished in isolated instances through dissection and animal experiments, but many of such instances are not free from doubt, and at best they present such a scanty record that their significance is negligible in the struggle against tuberculosis as a national pestilence.

Neither can infection through tuberculous milk be said to play an important rôle from this point of view. It is true that a series of cases of infection have been traced beyond a doubt to the consumption by infants of tuberculous milk. But their number is so small that they weigh lightly in the scale as against the number of infections that can be traced to contact with tuberculous persons. To this must be added that such cases generally run a favourable course, and only in rare instances has infection derived from perlsucht bacilli resulted in death.

Our attention, therefore, must be concentracted on infection acquired through contact with tuberculous objects in my remarks on the prophylaxis against the tuberculosis of childhool.

The question as to the initial focus of infection in the organism of the tuberculous child has not yet been finally decided. But the consensus of opinion seems to incline more and more to the theory that usually it is the lung that is the primary area of infection. This opinion has recently received valuable support from Dr. Anton Ghon, of Prague. He states that his own researches have demonstrated that in 95 per cent. of the 184 post-mortem examinations which he conducted with minute care the primary focus was found to be in the lung.

DIAGNOSIS.

Before I enter upon the subject the prophylactic measures I would like to say a few words about the exact diagnosis of juvenile tuberculosis. I regard it as superfluous here to say anything about definite pulmonary tuberculosis, that comparatively rare disease amongst children. From a prophylactic point of view those cases are of much greater importance in which the earlier stages do not readily lend themselves to exact diagnosis and where, therefore, the disease is only suspected.

The foremost place in diagnostic procedure must naturally be given to careful clinical examination and to the accurate registering of temparature. With regard to the latter, I should like to state emphatically that only two-hourly, or at least three-hourly, temperature takings can be regarded as trustworthy in bringing to light those oscillations of temperature which are such a characteristic feature in tubercular disease, a fact that is often neglected by the practitioner. A most valuable aid to clinical examination is afforded by the X ray picture, particularly in cases of tuberculosis of the broughial glands, their presence being demonstrated by the rays in far greater number than could otherwise be discovered.

The tuberculin tests, when rightly applied and correctly interpreted, also offer invaluable diagnostic aids. But it must be acknowledged that though these tests indicate the existence of tuberculosis, they give no precise clue as to the degree of activity present.

It is not necessary for me here to enumerate the various forms in which juvenile tuberculosis may be exhibited, particularly as this point is of small importance in determining the nature of the prophylactic measures to be adopted.

PREVENTIVE MEASURES.

I will now discuss practical measures for dealing with the tuberculosis of infancy and childhood. They are of two-fold character: preventive measures and curative measures. Before this audience it would be beside the point to enumerate the long list of well-known general measures that have been adopted for the prevention of tuberculosis. I will therefore confine myself to discussing those that are peculiarly designed to promote the safeguarding of children and which promise the greatest measure of success.

The indirect measures I will only briefly touch upon. Amongst these the preventing of the marriage of tuberculous females comes first. If the case is one of definite open tuberculosis it is the duty of the medical adviser to use every argument at his command to prevent such a union taking place, even when the disease is not progressive, but appears to have reached a stage of quiescence. The dangerous consequences which pregnancy in such a case would entail, both upon the mother and child, are to be clearly brought home to the woman.

Should a tuberculous woman be delivered of an apparently healthy infant, the question arises whether she is to be allowed to suckle her child. Medical opinion is divided upon this point. Since, however, modern researches have demonstrated that the milk of tuberculous mothers, even when there is no mammary disease, harbours tubercle bacilli, the suckling of infants by tuberculous mothers should in all circumstances be prohibited.

SAFEGUARDING OF CHILDREN IN FAMILIES WITH TUBERCULOUS MEMBERS.

If we take our stand upon the theory that the chief source of infection for children also is represented by the adult suffering from open tuberculosis, it follows as a natural consequence that the more cramped and unclean the dwelling, and the more intimate the intercourse among its inmates, the greater is the danger from infection for the child exposed to such conditions. It is therefore obvious that the safest precautionary measure in the interests of the child would be to remove the diseased subject away from the still healthy members of his family. How this can best be accomplished has been debated by numerous interestingators and social workers, both at congresses and in writings. But as yet no satisfactory solution has been arrived at.

We admit that in theory the safest way of safeguarding the child from infection emanating from diseased members of the family would be to isolate permanently all those who are carriers and distributors of tubercle bacilli. But the impracticability of such a measure is universally acknowledged and calls for no further comment.

Equally safe would be the permanent removal of the healthy child from the infected and infective milieu and its accommodation in healthy surroundings. Such children could be boarded out in healthy families in the country, as is done in the scheme initiated by Grancher, the well-

known children's specialist in Pairs. It is true that his scheme has achieved good results. But such a scheme could never be applied to more than a limited number of infants. In the first place, the cost would be prohibitive, and, secondly, the supply of suitable families would run short.

But an obstacle of equal importance would be found in the opposition of the parents to any such general scheme. It is only in scattered instauces that parents can be induced to part with their children, and the difficulty in breaking down this operation would always be greatest in countries where the conceptions of family life had attained their strongest development.

This opposition is both natural and commendable, for such a separation would be futile unless it were of a permanent character. The children of tuberculous parents would need to be removed from their dangerous environment as soon as possible after birth, and would have to remain with their foster-parents until they had entered into the ranks of wageearners. For we have seen that only the newly-born are free from bacilli, and that infection takes place during the second half of the first year of life, and that it then increases in incidence until the age of puberty.

Social experiments, which have been made on a large scale, chiefly in Sweden, have demonstrated that tubercular parents more readily surrender their children to institutions and to organised homes than to families, and that the children often do very well in institutions of this description. But such schemes cannot be advocated as a sound social measure in the war against tuberculosis as a national pestilence. parents who will voluntraily resign their children will always represent a comparatively small minority and the cost to the State of such institutions, in which the children must be maintained from the first year of life to the end of the school career, would considerably exceed even the costs of an orphanage.

Baginsky of Berlin, demanded the erection of small simple cottage homes scattered all over the country in which children who were exposed to tuberculous infection in their own homes could be brought up in the vicinity of their praeuts. As far as I know, no practical attempts at carrying out his suggestion have yet been made, and I hardly think that they would prove more easily practicable than the Swedish system of infants' homes.

The Saxon Association for Volksheilstätten has recently acquired a tract of land in a rural district to be utilised for a children's colony. To this colony are to be sent children who stand in imminent danger of contracting tuberculosis if they remain in their original environmentthose who have already contracted pulmonary tuberculosis being excluded and sent to Heilstätten-and here they are to remain either until they have acquired resistance to the disease or until their home conditions no longer warrant their being kept away from their own families. children are early to be taught how to maintain and promote their own health during work and play. They are to become acquainted with simple but adequate hygienic surroundings, such as every adult should with determination be quite able to secure for himself.

Another experiment of a different kind was also made in Sweden, the object of which was to enable tuberculous families to rear healthy children without parting from them, and this was also met with partial success. Whole families, each of which included at least once tuberculous member, were accommodated in family dwellings which were specially arranged for their reception. A medical man treated the patients and aided by a nurse, taught and supervised the healthy contracts. It is claimed that in this way infection was prevented from spreading within the family circle. Such a scheme necessitates a large expenditure and therefore could never meet with general acceptance.

In Germany, in Altena in Westphalia, a large capitalist who is the proprietor of a great metal industry, and amongst whose workpeople tuberculosis was rife, has built dwellings with accommodation for two to six families. These have a warm, sunny aspect, and are situated close to a forest. Each house is so arranged that it contains a sick room fitted up with a blacony and fully isolated from the remainder of the rooms. The proper use of these houses is controlled by a medical man and nurse. Here, too, it is said that infection has not spread beyond the patient to the children. Unfortunately, this benefactor has as yet had no imitators with us in Germany. The town of Cologne intends to erect special houses for families with a member suffering from tuberculosis. In the north of France a number of family dwellings for consumptive families have been erected in connexion with a sanatorium for pulmonary tuberculosis. But they have met with no appreciation and generally stand empty.

The running idea in all these establishments is highly commendable. But experience has proved that none of them are practicable on a large scale. A substitute for such schemes that is of great value to us in Germany in our endeavours to check tubeculosis is the building of small houses to accommodate one or two families amongst the working classes. Such dwellings have long existed in England to the benefit of the working man. We in Germany are copying the example of England in this respect, chiefly in the extensive industrial districts connected with the metal and mining industries. The Garden City movement has the same end in view, but only proceeds slowly, chiefly because ground in the neighbourhood of large towns is too dear, and in many cases also because the traffic facilities are not yet sufficiently forthcoming.

PURE MILK SUPPLY. - POPULAR ENLIGHTENMENT.

Amongst other general hygienic measures which conduce to promote the prevention of tuberculosis must still be mentioned a pure milk-supply for children, the enlightenment of the whole population regarding healthy Hving and the rearing of the next generation, and also special teaching in reference to the infective potentialities of tuberculosis and to the available methods for neutralising them.

As regards the milk nutrition of infants it has been our experience in Germany for some years past that, in consequence of the increase in the number of cooperative dairies and wholesale milk industries, not only the infants in large towns but also those in rural districts suffer from insufficient nourishment. The whole milk is sent to the dairies to be utilised for cream and butter, and the children are fed with skim-milk. This should be most energetically prevented. We have recently made most strenuous efforts to encourage the keeping of goats for milk. The poor man can generally keep his own goat, and if properly cared for it will supply his children with good milk at a small cost, while the milk offers certain well-known advantages over cows' milk. Cows' milk should, of course, first be boiled.

As concerns the popular enlightenment of the entire nation which is so obviously called for, the institution known as "wander-museums" appears to answer best. We have 20 such museums in Germany. They serve as excellent concrete object-lessons, supplemented by popular lectures by medcial men, as they travel from place to place. Popular articles in the daily press, the distribution of leaflets and lantern lectures, serve the same purpose. The most thorough elucidation is given by the dispensaries by constantly repeated instruction practically showing the different means of prevention, especially to the housewife in the dwelling of the diseased. Finally, the raising of the powers of resistence in the organism of the child should find mention amongst general measures.

SAFEGUARDING INFANTS AND CHILDREN UNDER SCHOOL AGE.

I now proceed to discuss special measures for safeguarding children, and it will be well to take each age-period separately.

During the suckling stage the infant comes into contact with comparatively few inividual, and passes his days either in his cot or on his mother's arm. The range of infection is therefore limited, provided his mother is a healthy woman. During this period, therefore, good nutrition is what counts most. Breast-feeding by a healthy mother must, of course, be divocated and supported in every direction. At the instigation of the Empress Augusta Victoria there is now a widespread movement going on in Germany having for its object the prevention of infant mortality throughout the German Empire, its foremost endeavour being to promote breast-feeding, partly through the teaching of the proper care of infants and partly through the provision of breast-feeding premiums. Where breast-feeding is radically impossible mothers are provided with opportunities for obtaining good milk.

We have already stated that a tuberculous mother should not be permitted to suckle her child, and to this must be added that it is of great importance that supervision should be exercised over the health-conditions of wet-nurses and of all persons entrusted with the personal care of infants, a matter that often escapes attention Tuberculous wet-nurses and nursemaids should be at once discharged.

. The baby should also be kept away from a sick father and unhealthy brothers and sisters. These should not be permitted to kiss it. From sheer ignorance it is unfortunately a frequent custom amongst the poorer classess to entrust the care of small children to delicate members of the family who are incapacitated from wage-earning. It is urgently necessary that medical practitioners, where possible, should prevent this duty being undertaken by tuberculous persons. In the case of boarded-out infants care should be taken that such children are not accommodated in families containing a tuberculous member.

From the end of the first year of life until the school age the children still move principally within the narrow limits of the home. But as their powers of independent movement increase they come more and more into contact with other persons. For this age the same precautions that were cited in regard to the first year of life are applicable. they need some expansion.

The children now begin to crawl about the floor and then to traverse the various rooms of the dwelling. They touch every object that comes within their reach and put it and their own fingers into their mouths. The range of infective possibilities is thereby largely increased, and the necessity for strictly precautionary measures is thus of greater urgency, particularly as regards keeping infected persons at a proper distance from the children, the radical destruction of infected sputum, and the maintenance of scrupulous cleanliness within the home, in order to exclude every possibility of "droplet" or of dust-carried infection.

The young children themselves should be trained to observe strict habits of cleanliness and should have special table utensils set apart for their use.

I would like to draw attention here to certain malpractices which are admirably adopted to convey infection and which are unfortunately very popular, at least with us in Germany. In order to prevent the child crying it is too ofen the fashion to stuff into the child's mouth a "Lutscher" or rubber teat [the English "comforter"], an article which is not only thrown about in every direction by the child and then restored to its mouth without previous cleaning, but is often first wetted in the mother's mouth before finding its way into the child's. It is also a frequent practice, or rather malpractice, on the part of mothers or of persons nursing children to place the spoonful of food first between their own lips, either to test the heat or in order to encourage the children to eat.

Another really appalling custom of which adults are often guilty is to clean the child's face or mouth with their own, by no means always blameless, pocket-handkerchief, to say nothing of occasions when the article in question is first moistened with saliva in order the better to remark dirt from the infant's countenance. Finally, children should not in any discumstances be kissed on the mouth.

It is only in order to complete the tale of precautionary measures that I allude to the necessity for the adequate nutrition of children during the second age-period and to the obvious fact that milk should constitute the chief article of diet.

PERIOD OF SCHOOL LIFE.

I now come to the period of school life. A new factor of importance in regard to the protection of the child against the invasion of tuberculosis now comes into force.

In the age-periods so far mentioned the parents and the probably consulted physician were the only ones responsible for the care of the children; however, the dispensaries-so-called "Auskunfts-und Fürsorgestellen" (Information and Aid Stations), could and should take an active part in the campaign against tuberculosis. The importance attached to them in Germany is shown by the fact that their number, in the few years since their existence, has reached 1400. Their chief aims are the identification of already infected or threatened children in the families of consumptives; in this direction their work is particularly successful, as everywhere where a consumptive is discovered he is considered as a centre of infection, and a systematic examination of his whole surroundings is thereby made possible; repeated instruction of these families in the danger of infection, and the measures of prevention, and supervision of the carrying out of these measures, care for all possible isolation of the source of infection, and finally care of the curable and ascertainment of all possible means of support by public and private philanthropy. During the school period a fourth group also begins action -the school itself, and this includes the school doctors and the school teachers.

Before entering upon the special measures relating to the safeguarding of school children the question arises whether the school itself is free from blame in the spread of tuberculosis, and, if so, to what extent—whether, in fact, tuberculosis can rightly be included among the so-called school diseases. This question I would answer most emphatically in the negative. The possibility cannot be denied, it is true, that infection may be incurred arough association with a diseased fellow scholar or teacher. But, as we have already seen, the seed of infection has almost invariably been implanted in the scholar before his entrance into the school, and the infective source has been his home environment.

During the compulsory school age, and particularly from tenth year onwards, the infection thus acquired begins to manifest itself and to display definite symptoms of disease. But, generally speaking, the disease retains its closed character during school age, and therefore does not spread infection. Open tuberculosis is rarely encountered amongst school children, and then chiefly in large towns and industrial districts which display very crowded housing conditions. The danger, therefore, of incurring infection through school attendance is almost negligible.

Tuberculous Teachers.

How do matters stand, however, with regard to the danger of infection arising from association with tuberculous teachers? Unfortunately, no reliable statistics are as yet obtainable regarding the incidence of pulmonary tuberculosis among the teaching profession. But it may be accepted as a fact that a considerable number of masters and a still greater number of mistresses do suffer from this disease. It must also be admitted that a tuberculous teacher who often talks incessantly during the course of the day's work and who, when he walks about amongst the scholars, as he often does, must certainly discharge a fine spray of moisture laden with tubercle bacilli into the air of the class-room and upon the scholars assembled there, offers an undoubted agency for the spread of infection. But in spite of that I think that this danger is often greatly exaggerated.

In the first place, the healthy teachers are very largely in the majority. Further, the intercourse between the scholar and the teacher under modern conditions of clean and airy school-rooms is not nearly so intimate, neither it is so prolonged, as the intercourse between the scholar and his own family. Nevertheless, this gives us no valid ground for relaxing prophylactic measures against the spread of infection from this source. Both teachers and scholars who eject tubercle bacilli in the act of coughing should be rigidly excluded from school.

In Denmark there has long existed a law which orders that all tuberculous teachers must submit to a course of sanatorium treatment, and that if no permanent cure results from such treatment the commune may demand that the tuberculous teacher shall be pensioned with two-thirds of his salary.

In Prussia an Order of the Kultus-Ministerium dealing with the prevention of the spread of infectious diseases through the school was issued on July 7th, 1907, and has been adopted by several of the other Federal States of Germany. In addition to a series of precise regulations relating to the cleansing of school premises, the Order contains the important clause that tubeculous scholars and teachers who fall under suspicion of harbouring tubercle bacilli in their sputum must have the Apptum examined, and if it contains tubercle bacilli the scholars and teachers must be excluded from the school.

The proper carrying out of this regulation is attended by great difficulties. The teachers themselves are held responsible for getting their sputum examined. What happens, however, to a teacher whose sputum gives direct evidence of the presence of tubercle bacilli? If the State demands that he shall not be allowed to exercise his profession, then the State should also take care to provide ample opportunities for the teacher to undergo a curative course of treatment in a sanatorium, the teacher paying either nothing or fees having proper relation to his economic status. Such treatment is generally both lengthy and expensive.

And, further, what is the fate of the teacher whose sputum continues to harbour bacilli? The town council of Schoeneberg (Berlin) has ordered that within their own municipality such teachers are to be pensioned. As, however, pulmonary tuberculosis generally occurs early in life and after a very short period of service, the pension is so small that the unfortunate teacher cannot live on it, particularly if he is married. leads to the inevitable consequence that most of the consumptive teachers. knowing the miseries of an inadequate pension that await them, do not admit the true nature of their condition either to themselves or to their authorities until concealment is no longer possible.

If the Order is to attain the object for which it was drawn up it will be necessary, first, to make suitable provision for members of the teaching staff who have fallen victims to pulmonary tuberculosis; and, secondly, to control the compulsory examinations of the sputum. What has been done on these lines hitherto is wholly inadequate.

It would be much better to institute stricter measures for preventing the appointment of tuberculous subjects as teachers. The most urgent demands in this connexion are—first, the inclusion of hygiene instruction in the syllabus of every seminary for school-masters and mistresses, such instruction also extending to the prevention and checking of tuberculosis: secondly, a careful medical examination of every canditate for the seminary and a watchful supervision over every pupil who attends the seminary; and, thirdly, a most important point, a thorough medical examination before appointment to teaching posts, accompanied by the rigid exclusion of all tuberculous candidates.

Tuberculous Scholars.

The admission of scholars suffering from open tuberculosis can readily be prevented by the general introduction of school medical service.

In Germany we have now more than 800 school doctors, and the value of their services has everywhere been recognised. The terms of the school doctor's office place a wide range of preventive measures against tuberculosis within his power. A successful campaign against this disease can only be consummated in cooperation with the careful organisation of the activities of the school doctor. To him alone is it given to prevent the development of lateut tuberculosis into active disease in the children examined by him and kept under his constant watchful supervision. This he can achieve through the enforcing of general hygienic measures, through the agency of existing institutions providing appropriate treatment for delicate children, and through counsel and instruction given to the teaching staff, to the children themselves, and to their parents.

If I go into detail, then the foremost duty of the school doctor is to examine thoroughly all children before they are admitted into school. Those who already show symptoms of open tuberculosis must be dealt with according to the nature of each individual case and sent either to sanatoriums for pulmonary patients, to institutions for children suffering from "surgical" tuberculosis, or to lupus sanatoriums,

Children who exhibit retarded physical development must be kept back from school for a period. Those who are found to have, or who are suspected of having, latent tuberculosis are registered on special lists. or special cards are written out for them (Zahl-karten). These children are then recommended to the teachers and to the parents for particularly watchful care, and are re-examined by the school doctor at regular intervala.

The entering of precise data on these health records or cards is of untold value in the prevention of tuberculosis. They should contain, in addition to the findings of the school doctor, the statements of the parents. the reason for school absences, any facts that may be elicited through inquiries into the housing, nutrition, and economic conditions of the family, &c. To complete their utility these records should be continued even after school-leaving through educational agencies, &c., until the subject presents himself for compulsory military service,

Some time before the children leave school a medical examination should be conducted in the school, and if possible, in the presence of the parents, with a view to deciding upon the choice of a suitable trade.

By means of school medical examination all children who are possible transmitters of infection are entirely excluded from school, while the suspected cases are carefully watched, every indication of progressive disease being at once recognised, and appropriate measures being promptly applied and persisted in as long as necessary. By so doing it is possible to increase their resistance to disease and often to prevent the development of latent tuberculosis into active forms. In dealing with such children the school doctor will avail himself of the various agencies at his disposal for sending them to holiday camps, to forest recreation camps (Wald-erholung-stätten), to forest schools, and so on, or to institutions at the seaside or to inland spas.

It is of the first importance that the school doctor should conduct the medical examinations with requisite thoroughness, and to secure this it is essential that the necessary time should be placed at his disposal, which is unfortunately not always the case at the present moment when many school doctors are employed as part-time officers. In addition to the class examinations the school doctor should hold special consultations in the These afford opportunities for arriving at a correct diagnosis in the case of delicate children, and are of value also in drawing the attention of the teachers over and over again to the fact that health disturbances occurring amongst the scholars, even when not sufficient to hinder school attendance, are never to be passed over lightly.

In conducting a preventive campaign against tuberculosis among school children, the object of medical examination is not only to separate the cases of manifest tuberculosis, but also to note the suspected cases and to examine scrofulous children with a view to discovering a tuberculous nidus, Wherefthe children show signs of delicacy and malnutrition, as well as

in other instances of faulty development, the home conditions and the health of the remaining members of the family and of house inmates call for special inquiry.

Wherever the smallest suspicion of tuberculous malady arises the newer forms of tuberculin tests, particularly von Pirquet's cutano-reaction, Not only should unhealthy conditions of the chest should be applied. and glands be regarded with suspicion, but-skin diseases should always be carefully noted. In cases of nasal catarrh the mucous membrane of the anterior nares calls for watchful observation, as this is a favourite starting-point for lupus.

In investigating the housing conditions and the source of infection the aid of the dispensaries will be of great value.

Besides the class examinations and school consultations, parents' evenings, which have now been regularly instituted by several school authorities, offer excellent opportunities for the school doctors, either directly through simple lectures or in the course of less formal talks, to impress upon the parents the necessity for not neglecting even latent tuberculosis. and to point out its importance in relation to the future economic life of the scholar, and also to explain the various curative measures that may be employed.

Importance of School Medical Service.

I am convinced that the chief role in a preventive campaign against tuberculosis should be assigned to the school doctor. The office of school doctor should be a whole-time appointment, and only in exceptional cases a part-time duty, and the school medical service should be made general throughout the country. In that case it will be extended to all the higher schools, and not, as hitherto in Germany, almost entirely limited to the elementary schools.

The colleges for teachers should also be included in the school medical service as well as the trade and continuation schools. While it is the children belonging to the youngest school classes who chiefly call for medical supervision in the elementary schools, in the higher schools it is the age of puberty which is chiefly associated with pathological phenomena. for which fact a too arduous programme of school work at a period of active physical development must be held at least partially responsible.

When we can point to a complete State organisation of school medical supervision over the whole of the school-attending section of the population-particularly during that period of life which is the most critical as regards the development of tuberculosis—and when this measure renders possible the discovery and recovery of a large number of persons who might otherwise have become serious strain on the economic resources of the nation, then it will have to be acknowledged that the activities associated with the school medical service, offer the best basis for carrying out a prompt and far-reaching campaign against tuberculosis as a mational disease. ...

monary disease. In all other cases it can at least be tried. You will shake your heads and think me a tuberculin fanatic. But I am far from being a fauatic on this point, only my long experience has converted me into a profound believer in the efficacy of tuberculin. If rightly employed, it is just amongst chidren that the happiest results are associated with its use.

I should like to add a word about the newest method of treating all forms of tuberculosis, the chemo-therapy method elaborated in Bonn by Professor Frinkler, the eminent hygienist who recently died, and Gräfin Linden, the zoologist, and first published at the International Tuberculosis Congress held this year in Rome. This method consists in the use of methylene blue and various copper salts. These preparations are introduced into the system by subcutaneous injection, by internal application, and by inunction. The method is not yet sufficiently ripe for criticism to be passed on it, but the results of experimental treatment are awaited with great interest.

As the treatment of the children in the different intstitutions must necessarily stretch over a considerable time, it should be accompanied, as already stated, by a complete and regular system of school-teaching, the extension of which, however, to each individual case must be carefully regulated and supervised by the doctor. It is on these lines that the forest school education is conducted. The practice of introducing a systematic course of school teaching in sanatoria for children is now gaining ground.

The combat against tuberculosis amongst children imposes upon us a great task. If we take up the fight with energy and system, and in so doing perhaps succeed within a measurable distance of time in rearing a generation of tubercle-free human beings, then we may confidently hope that the day will also come when we shall attain our highest aim, and the most dreadful of all national pestilences will be banished from the face of the earth.—The Lancet, November 16, 1912.

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GLEANINGS IN THE FIELD OF HOMŒOPATHY.

By Dr. T. MILLER NEATBY, M.A.

There is a homely but effective criticism to be found in the Old Testament of a bed that was too short for a man to stretch himself in, and a covering too narrow for him to wrap himself in. Profiting by this fragment of ancient wisdom, I have chosen a title for this evening's lecture that will surely give me "ample room and verge enough" to say very much what I please; the title, "Gleanings in the Field of Homeopathy," will cover almost anything. After a somewhat discursive sermon, the famous preacher, Rowland Hill, was gently taken to task in the words, "Why, Mr. Hill, you have taken us from Dan to Beersheba." "Oh, never mind," was the characteristically ready reply, "it's all holy ground." I trust you will feel by this evening's end that after all we have not erred far from the sacred soil of Homeopathy.

In the lecture that I had, the privilege of delivering in this place last December, I referred to the not unplausible explanation that was given by the allopaths (I quoted in particular Oliver Wendell Holmes and Lauder Brunton) of the indubitable successes that fell to the credit of Homesopathy in its earlier days. It was impossible, they said, that the small, often infinitesimal, doses of substances which were moreover in some cases

(as they alleged) quite inert and without medicinal properties, should do any good. The merit of homeopathic treatment was, therefore, purely negative. It was valuable as a reaction against the old drastic, lowering, devitalizing system of treatment which was the therapeutic currency of the orthodox mints of Hahne-Giving medicine according to Hahnemann's mann's day. method was equivalent to giving no medicine at all. paths refrained alike from poisoning and from draining the wells of life. They adopted an expectant attitude. They were the They lest a clear field for nature. Quietists of medicine. word that came to Israel of old, when threatened by powerful foes, was "Stand still, and see the salvation of the Lord." A true word of the Lord, sounding forth from the same heaven of eternal truth, came in the beginning of the nineteenth century to the frenzied army of salivators and phlebotomists, battling blindly and often despairingly with the powerful forces disease-" Stand still and see the salvation, the physical salvation, that Nature, unaided, will bring."

This, then, was the explanation of such success as attended the practice of Homeopathy. Homeopathic cures so-called were not due to Homeopathy, but to what was called, by those who preferred Latin to their own mother-tongue, the vis medicatrix nature. I may remark in passing that doctors have always loved Latin, even bad Latin, more than English. Indeed, I am reminded of a couplet written by one of the wits of my own college at Cambridge some years ago, when the battle of Greek and No-Greek was raging:

And some who won their spurs by Greek Profess no Greek to know. While those whose Greek is next to nil With love of Greek o'erflow.

I am bound to say that speaking generally doctors' Latin is next to nil, but they are very fond of it all the same. This however, is a digression from the vis medicatrix natura, that is, the Healing Force of Nature.

Now if that were the full explanation of the value of Homeo-

pathy, Homeopathy would still have achieved one of the most colossal reforms in medicine, and Hahnemann would still have proved himself a revolutionist of the first order—in other words, a genius.

We are bound to admit, I think, that this explanation is partially true; that is to say, that it is an explanation that partially explains the success of Homosopathy. There can be no doubt that under the old crude coercive treatment, by which remedies but little understood were applied in large doses to bodies whose activities and susceptibilities were still less understood, many mild or only moderately severe cases, say, pneumonia, were sent to an untimely death. Most of such cases would probably get well of themselves, provided they were well nursed. Many precisely similar cases, no doubt, get well under good nursing plus homeopathic treatment. It may seem plausible, therefore, to say that such cases were really gured by unassisted Nature, and that the homeopathic treatment that they received, while it did no harm, contributed nothing to the successful issue. But if this vis medicatrix nature theory were correct, one would suppose that, as soon as the allopaths saw the folly of obstructing Nature's beneficent processes and adopted by preference the policy of a masterly inactivitystanding by and letting Nature do the work, straightway their results would be as good as those of the homeopaths. But is this so?

Well, take pneumonia, the disease just mentioned. It is useful for our purposes because, although a serious disease, it is a disease which shows a marked tendency to spontaneous recovery, and therefore the opinion that homeopathic cures of pneumonia are really Nature's cures and nothing else is prima facie plausible. We will compare the allopathic and homeoptthic results, first of the old times when allopaths were still treading the stony thorn-ridden ways of bleeding and of polypharmacy run mad, and secondly of the modern civilized times during which they have trodden "the primrose path of dalliance" and expectancy.

We have statistics of the cases of pneumonia treated in the Royal Infirmary of Edinburgh from 1839 to 1849 (the figures are taken from the late Professor Hughes Bennett): total number of cases 648, deaths 222, mortality 34.2 per cent. Within the same period, from the year 1844 to 1848, Fleischmann treated in the homeopathic Hospital at Vienna 284 consecutive cases with only 10 deaths-mortality 3.5 per cent. The difference between a mortality of 34.2 per cent, and 3.5 per cent, is considerable. Can this discrepancy be accounted for simply on the theory that the Homcopaths gave Nature a free hand? If this were so, we should expect the 34.2 per cent. mortality to come down to something like the low level of 3.5 per cent. at any rate. In the ten years from 1896 to 1906, when the expectant treatment was in full swing and allopaths had learnt the futility of drugs. 7.868 cases were treated in the various London hospitals (I quote Allbutt's "System of Medicine"), and the mortality was 21.8 per cent. There is a decided drop in the percentage you see-from 34.2 to 21.8. That gives you some idea of the proportion of cases, some 12 or 13 per cent., that used to be conjured into their graves by the medicine-man of the good old days-cases that, if let alone, would have recovered. But in saying that, I may be exaggerating. I will explain what I mean. It might be urged that the pneumonia of recent years has been of a less virulent strain than that of sixty or seventy years ago. I do not think that is so; for, if it were, the homocopathic mortality ought to have declined even from the low rate of Fleishmann, viz., 3.5 per cent., which is not the case. Such statistics as there are point, rather, to a slight increase. In the summer of 1910 I compiled for use at the Homocopathic Congress held in that year at Tunbridge Wells the records of the previous one hundred consecutive cases of pneumonia treated in the London Homocopathic Hospital. Of these hundred cases 93 were cured and 7 died. That is a mortality of 7 per cent. This is a slight increase on Fleischmann's percentage. But in any case the discrepancy between Allbutt's "expectant" mortality of 21.8 per cent, and the homeopathic mortality of 7 per cent. is very remarkable. Our figures are really rather better than they appear. I will explain how. It is recognised that pneumonia is decidedly more fatal in young children than in adults. Now it happens that of the hundred consecutive cases that I collected exactly fifty were over the age of ten, and fifty were under the age of ten. Of the fifty cases under ten years only one died—a mortality of two per cent. only. This corresponds with the fact to which I shall refer later on, namely, that children respond even better to homeopathic treatment than adults do.

In order to make the comparison with Allbutt's figures (which refer to the decade between 1896 and 1906) more scrupulously fair, I have looked up the records of pneumonia in our own hospital for the same period of years. From 1896 to 1906 we treated 366 cases of pneumonia, of which 47 died—a mortality of 12.8 per cent. Although for some reason the homeopathic mortality rose during this decade, it is nevertheless 12.8 per cent. as compared with a 21.8 per cent., mortality in all the London Hospitals. I may add that it is a great mistake to suppose that serious cases do not come to our hospital. So far is this from being the case that in reality our death-roll is swelled by the admission of many cases that are virtually moribund.

Now let us test in another way this theory that the vis medicatrix naturæ is the sole and sufficient explanation of the homeopathic cures—a theory which, as coming from the allopaths, is of the nature of an appeal from Philip drunk to Philip sober. Pneumonia is a type of disease that tends to recovery in the majority of cases. But some diseases are of so fell a nature that it might almost be said that they tend naturally to a fatal conclusion. Asiatic Cholera is one of these. It is universally recognised that in an epidemic of cholera the mortality is extremely high. Osler says in his "Practice of Medicine" that the mortality is anything from 30 to 80 per cent. according to the virulence of the particular epidemic; that is, in the modern era of medicine when Philip is sober, not in the old era when he was exceedingly drunk, and when many deaths might

plausibly be attributed to the intemperance of the physician rather than to any special virulence the disease. If 30 to 80 per cent. is the allopathic mortality in the days of sober medicine, when the vis medicatrix naturæ has a free hand, how is it that Homeopathy, having, as they say, no real power at her back except this same vis medicatrix natura, is able, nevertheless, to show a mortality so enormously less? For so it is. I referred in my lecture of last December to the severe epidemic of cholera that raged in London in 1854, when the London Homeopathic Hospital, then located in Golden Square, was thrown open, like the other metropolitan hospitals, for the reception of cholera cases. Medical inspectors, themselves allopaths, were allotted to all the hospitals. The nature of the cases, the treatment and the results were, therefore, checked by a quite unbiassed official. What was the result? Sixty-one cases of true cholera were treated at the Homosopathic Hospital, with a total of ten deaths—a mortality of 16.4 per cent. In the other London hospitals the mortality was 51.8 per cent., or more than three times as great. In the Naples epidemic of 1854-5 Dr. Rubini, following the recommendation of Hahnemann himself, who twenty-three years previously had stated that Camphor was the true remedy for the first stage of cholera, treated with Camphor 225 cases in the Naples infirmary, and in addition 166 soldiers of the 3rd Swiss Regiment-391 cases in all-without a single death. In the last cholera epidemic in Naples which was in 1884, Dr. Rubini, then a veteran of eighty-four years, was absent from the town, but the medical men attached to the homeopathic dispensary in Naples treated eighty-three cases, with a mortality of 3.6 per cent.

The highest mortality percentage in these homosopathic statistics is that of the London Homospathic Hospital in the 1854 epidemic, viz., 16.4 per cent. Yet how much lower even that is than the allopathic low water mark of 30 per cent., as given by Osler. Is it not, therefore, abundantly evident that the vis medicatrix nature is by itself quite inadequaite to explain the low mortality that prevails under homosopathic treatment?

But there is an alternative explanation to the vis medicatrix natura, ready to the hands of those who are perplexed by homeopathic success. It is the vis catrix suggetionis, "the healing force of suggestion," which is the underlying reality of faith-cures, mindcures, Christian science, the King's touch, et hoc genus omne. Not only, that is, does the homeopath interpose no obstacles in the way of nature's own reparative processes, but he actually hitches his waggon to one of the most dominant stars in the whole therapeutic firmament, not to the star of "Similars" at all, but to the star of mental suggestion. He actually harnesses to his chariot—his unlicensed and unregistered car—one of the mightiest and subtlest forces of nature—the influence, in short, of the mind upon the body.

As long ago as 1839 Dr. William Cooke, who was one of the founders, and for ever twenty years the Secretary, of the Hunterian Society, offered this explanation of homoeopathic cures. The following argument he considered "irresistible." "Pills." he said, "made with inert substances, as flour, gum-arabic and strach, were given to patients who believed them to be homeopathic remedies, and the effects were such as are imputed to those remedies by the credulous patients. These experiments and others made in Paris to ascertain how far Homeopathy had claim to public confidence tend to prove that, where any effects are produced, they are to be ascribed to the influence of the imagination." I remember as a child hearing one of my elders say that a doctor of divinity might be a great donkey. I have since learned that doctors of anything, whether divinity or law or medicine, are very often guilty of absurdities that are quite patent to the man in the street. We might have believed it possible that such methods of proving or disproving the truth of homoeopathy should have seemed plausible to the science of the Neolithic age. But that scientific men less than eighty years ago should have committed themselves to such preposterous futilities is almost beyond belief. At least it would be, if we were not too painfully familar with the blinding force of prejudice. But for that we might go the whimsical length to

which Carlyle went in speaking of Darwin, one of his betes noires—he called him "a man of very little intellect."

Well, are homoopathic cures due to suggestion? Is it the fact that our patients have a firm belief that the medicine is going to do them good and that they are cured as a result of their strong faith? If we are to be candid, I think we should frankly admit that many so-called homosopathic cures are really faithcures. You can suggest a man into an illness. You can suggest him back to health. I remember, when I was at Cambridge, hearing of a prank played by a number of men upon one of their fellow under-graduates. It was agreed that one after another they should meet him in apparently an accidental way, and should pretend to be greatly shocked at his altered appearvance. "My dear chap, how ill you look!" said the first one. "Oh, no, I'm all right, thanks," was the reply. "You're looking queer," said the second one, "don't you feel quite well?" By the time the sixth man had conveyed to him the reassuring intimation that he looked very seedy, the poor victim became himself convinced of its truth and, feeling very ill, got back to college as quickly as possible and went to bed. Hack Tuke tells the story of a French nobleman whose friends bandaged his eyes and pretended to bleed him to death. They pricked the skin and caused a stream of warm water to trickle down his arm. The victim, mistaking the warm water for his own vital fluid, and hearing at intervals such remarks as "He is getting faint." "The heart's action is getting feebler," "The pulse is almost gone," did actually die of cardiac syncope without the loss of a drop of blood. Two doctors in a New York hospital told the patients in a ward that owing to a mistake of the dispenser's they had taken an emetic instead of their usual mixture. A large number of the patients were at once seized with vomiting. This was done purposely, but doctors have need to beware lest inadvertently they suggest complaints to patients who have not had them before. The story is told (it sounds just a little bit "invented") of a lady who had given up consulting doctors because they always made her worse.

and learned physician, she said, would fix her with a glittering eye and say with a solemn and sepulchral voice, "Where is your pain?" And she would reply, "Sir, until this moment I had no pain, but now you make me ache all over." A case of locomotor ataxy recently under my care reminded me of a story told by Rudyard Kipling of a soldier suffering from locomotor ataxy, who was able to pull himself together as long as there was fighting to be done, but quickly went to pieces when the surgeon invalided him home. This seems to me quite possibly a true picture, and certainly Kipling is a very acute observer. My own patient was a railway guard, and though he had never complained of difficulty in boarding a train in motion I felt that my responsibility was too great and I made him give up his work.

Some people have even alleged that by mental concentration they could think or wish a person to death. I think it was Anna Kingsford who claimed to have caused in this way the death of the famous Pasteur. She hated him (as Macaulay said he hated Croker, "worse than cold boiled veal") because he practised vivisection, and she therefore determined to wish him to death. And he certainly did die, but whether as the result of Anna Kingsford's concentration of purpose it is not for me to say. I remember that the Chicago faith-healer, John Alexander Dowie, said publicly that nobody could oppose him and the movement he represented without paying the forfeit of his life. He alleged in evidence that the evangelist Moody strongly opposed him and his claims, and then almost immediately died. I myself, about the time that Dowie first came to this country, wrote several articles in a leading weekly about Dowie and Dowieism, which very much incensed Dowie. friends watched me with an anxious interest, fearing, I suppose, to see my flesh consume from my bones. But, as in a classical poem, no one seemed a penny the worse. 'This, I admit. is something of a digression. If Anna Kingsford's claim had anything in it, all I can say is that murder is murder, whether it be done by mental concentration or by the more material concentration of a six-shooter.

The influence, however, of the doctor's personality, or of the patient's profound belief in the doctor or in his remedies, is a factor that must be steadily reckoned with in assessing the value of so-called homogopathic cures. A new form of treatment often inspires faith in the heart of the patient. Sir Francis Cruise, Physician to the King in Ireland, tells how, when he was a young man he experimented on cardiac cases in the wards of a Dublin hospital with an early form of sphymograph an instrument for recording graphically the movements of the priled. Many of the patients were greatly benefited by it. One man, incurably ill with phthisis and dilated heart, improved considerably with treatment and rest, but assured inquirers that what did him most good was the appliance that the young doctor used to put round his wrist. I believe that some patients come fresh to Homoeopathy, through the recommendation of enthusiastic friends, with great hopes and a faith (unreasoning, if you like) in the new system. I was called once to see a very advanced case of cancer of the breast. The skin was involved in a fungating mass. The pain was severe, and for some time under allopathic treatment she had been having Morphia regularly. I was not very sanguine, but I hid my doubts. I said we would try to dispense with the Morphia, and I gave her Radium Bromite 30. For the few remaining weeks of her life she needed no morphia at all—the pain completely disappeared. It is not unfair to suggest that the alleviation was due to the drug, because we know that Radium has some affinity for malignant growths. At the same time it is possible that my suggestion that the Morphia would not be necessary, and the patient's faith either in me personally or in the system that I represented were the real operating factors. Dr. Lloyd Tuckey mentions the case of a doctor who used hypnotic suggestion for the relief of cancer patients and others. Some of these patients, after being hypnotised once with satisfactory results, had to go to a distance, out of the doctor's reach. To such it was his habit to give a bottle of tincture of Valerian, without telling them what it was, and to say, "Take a dose of this if the symptoms

recur." Excellent results are stated to have followed the exercise of that "simple faith" which, for therapeutic purpose, is very much better than Norman blood. I have seen very remarkable results proceed from a single dose of Thuja 200 administered by the dispenser to an outpatient who also received a box of hittle tablets to take home. The single dose effected such an internal turmoil that it was with great difficulty, and in a state of collapse, that the patient reached home. The unreflecting homeopath might cite this as illustrating the extraordinary power of a minute dose administered on homocopathic principles. might, of course, illustrate such power, but the inference would be precarious. The dose, standing in a splendid isolation, not to be taken in an ordinary way according to ordinary instructions, but to be consumed on the premises, and under the very eye of authority, may act by other subtle forces than those of homoeopathy. That this is so is shown by the fact that a single dose of mere sugar of milk, administered with the same pomp of attendant circumstances, has been known to produce such a paralysis of the vital forces that a taxicab has been requisitioned to carry the patient home. In Mohammedan countries, I believe, many patients are cured by pills made of paper on which are written texts from the Koran. Some of our patients can almost see stamped upon the little white tablets that they receive the magic words "Similia Similibus Curentur." "In hoc signo ninces."

But do the doctor's impressiveness and the patient's susceptibility to impressions constitute a sufficient explanation of homeopathic cures? Hardly. You may take off a discount on this score, if you will, and especially if you are in the true apostolic descent from Thomas called Didymus; but there still remain an enormous number of cases quite inexplicable upon this theory. In illustration I will take a case that has occurred in my practice within the last three years. A young married woman who had suffered a long time from dyspepsia, and whom neither Nature unaided nor her other physicians had been able to cure, came to me. She said she had been recommended by

a friend to try me. She showed no enthusiasm about Homocopathy and was not in the least sanguine. When I gave her a little bottle, with directions about a few drops to be taken so many times a day, her astonishment was not flattering to my powers of suggestion. "That little bottle!" she cried. "What ever good can that do?" "Well," I said," you take it, and then come and see me again." She returned in a short time and said she was quite well. "But," she added, "I never thought that those little drops could do me any good." The cure held good, for two years at least. There is a case of obstinate indicestion that had preved refractory to other treatment and was ultimately cured by Homeeopathy in the face of marked unbelief. That story I consider edifying. But the sequel is also edifying. Two years later she had a slight relapse and returned to me. "When I first came," she said "I did not think those little drops could be of the slightest use, but I know better now. I should like some more of that medicine that you gave me before." Well, I gave her some more and she got all right. Now I daresay that at that second visit her faith in me and my medicine, which was as strong as her previous want of faith. may have been a very important factor in the cure. I gave her the same medicine as on the previous oceasion, but I think it is on the cards that, if I had given her sugar of milk, she would have got well just the same. I don't know; I only think it possible that in the second case she was unconsciously recalling past impressions. Cases are recorded of patients accustomed to ansethetisation who have succumbed to a dry fate-mask. A remarkable stery, quoted by Dr. Lloyd Tuckey, is told by the ansathetist. Mr. Woodhouse Braine. Having to administer ether to a hysterical girl with a view to the removal of two scheeces tumours of the scalp, Mr. Braine found his other hottle empty. There was not even the eddar of ether in the inhaling bag. While a fresh supply of ether was being obtained Mr. Braine thought to familiarise the patient with the process by putting the bag over her mouth and nose, and bidding her breathe quietly and deeply. After a few inspirations the girl cried, "Oh, I feel it, I am going off," and a moment later she became unconscious. As she was found to be quite insensible and the ether had not yet come, Mr. Braine proposed that the surgeon should proceed with the operation. One tumour was removed without in the least disturbing her. Then, in order to test her condition, a bystander said she was coming to. Upon this she began to show signs of waking. The bag was once more applied, with the remark, "She'll soon be off again." She immediately lost consciousness, and the operation was successfully completed—in the hypnotic sleep. The explanation was that the girl had taken ether three years before, and that the expectation of being anæsthetised as well as the use of the apparatus had proved sufficient to excite her recollection and recall the effects of the drug as then experienced. Similarly the cure of my patient's slight relapse into dyspensia might be unconscious "suggestive" recalling of past ascribed to an impressions. But the cure of the original condition was a pure result of Homoeopathy.

There is another class of cases in which not only is the unaided medicatrix natura little likely to be the cause of cure, but the vis medicatrix suggestionist is precluded by the conditions of the case. Take, e.g., a case of septicæmia in which there is prolonged. high fever and delirium. A patient in that state is not susceptible to suggestion. A girl of sixteen had a large carbuncle on the face, involving the facial vein and producing a condition of general septicæmia. She was under the care of a homocopath. As her condition was desperate, a very distinguished man, still living, was asked to see the case in consultation. He saw the girl and said confidentially to the practitioner in charge, " necessarily and hopelessly fatal." But the homoeopath had a shot or two in his locker that the eminent surgeon had not reckoned with. He gave the girl Rhus. tox., and she made an excellent recovery. Into that sort of case the patient's faith and imagination are factors that do not enter.

Again, do you think the vis medicatrix suggestionis a very plansible explanation of the following story, so graphically told

by the chief actor that I transcribe in his words. Dr. Holcombe, of New Orleans, was converted to Homocopathy by cholera. In 1849 his city was devastated by the overflowing scourge. The mortality was so awful and treatment apparently so futile that he made up his mind to try Homocopathy, although he had been wont to describe it as "the most gigantic humbug of the day." "I got," he writes, a little cholera case, containing six little vials of pellets, and a printed chart of directions. awaited my next patient like a hunter watching for a duck. was called up in the middle of the night to see a poor fellow. said to be dying of cholera on a flat-boat which had just landed. I found him collapsed; he was cold and blue, with frequent rice-water discharges, and horribly cramped. His voice was husky, pulse feeble and fluttering, he was tossing about continually, begging his comrades to rub his limbs. I immediately wrote a prescription for pills of Calomel, Morphine and Capsicum and despatched a messenger to a drug-store. This was to be my reserve corps—ready for use if the infinitesimals failed. I consulted the printed directions; they ordered Cuprum when the cramps seemed to be the prominent symptom. I dissolved some pellets in a tumbler of water, and gave a teaspoonful every five minutes. I administered the simple remedy, apparently nothing, with incredulity and some trepidation, 'I had no right,' said I to myself, 'to trifle with this man's life. If he is not better when the pills come, I will give them as rapidly as possible.' The messenger had gone for the pills a good wav up town. He had been obliged to ring a long while before he could rouse the sleeping apothecary, and it was quite three quarters of an hour before he rushed on the boat with the precious allopathic parcel. My patient had become quiet : his cramps had disappeared; and he was thanking me in his hoarse whisper for having relieved him of such atrocious pains. allopathic parcel was laid on the shelf. I consulted my printed directions again. "Veratrum was said to be specific against ricewater discharges and cold sweats, which still continued. I dissolved a few pellet of Veratrum, and ordered a teaspoonful

every ten or fifteen minutes, unless the patient was asleep. Before I left the room, however, an allopathic qualm came over me, sharp as a stitch in the side, and I left orders that if the man got any worse the pills must be given every half hour till relieved, and I might have added or dead.' I retired to my couch; but not to eleep; like Macbeth, I had murdered sleep, at least for one night. The spirit of Allopathy, terrible as a night-mare, came down fiercely upon me, and would not let me rest. What right had I to dose that poor fellow with Hahnemann's medicinal moonshine when his own faith, no doubt, was pinned to Calomel and Opium, and all the orthodox pills, etc., etc.? I had not told him I was going to practise Homeepathy on him. His apparent relief was probably only a deceitful calm. Perhaps he was at that moment sinking beyond all hope, owing to my guilty trifling with human life. He was a drowning man calling for help, and I had reached him only a straw. I was overwhelmed with strange and miserable apprehensions. I longed for the morning like a sick man, for I was sick in conscience and at heart. I left my bed of thorns at day-break, and hurried to the boat, trembling with fear that I should find the subject of my rash experiment cold and dead. He was in a sweet sleep. The sweating and diarrhoa had disappeared, and a returning warmth had diffused itself over the skin. out of danger, and he made the most rapid convalescence I had ever witnessed after cholera. I was delighted; a burden had been lifted from my heart, a cloud from my mind. I began to believe in Homeopathy. I felt like some old Jew who had witnessed the contest between Goliath and David. How amazed he must have been when the great giant, who could not be frightened by swords or bludgeons or brazen trumpets, fell before the shephered boy, armed only with a little pebble from the brook." Here ends: Dr. Holcombe's narrative. What, I ask, has the vie medicatrix of mental suggestion or faith-curing to do with this? And as for the vis medicatrix natura, I would remind you again that severe cases of Asiatic cholera die if they are not treated, and only too often if they are.

But the rocks on which this theory of vis medicatrix suggestionis most decisively breaks are small children and the lower animals. Neither of these classes of animate nature is open to suggestion. In speaking of the homocopathic cures of pneumonia I have referred to the case of children. From our latest pneumonia statistics it would seem that children attacked with pneumonia do even better than adults. Indeed, children illustrate more perfectly than adults the effects of medicines administered on the homeopathic principle. Their cure is much more certainly than the cure of adults a pure drug-result. Instances might, of course, easily be multiplied. Only a week or two ago I saw a child of two who had been brought to me about three weeks previously for obstinate constipation, dating from birth. Upon interrogation of the grand-mother there did not appear to be anything wrong with the diet and general hygiene; that had very likely been seen to by former physicians. I could not rely on the vis medicatrix naturix naturæ; for chronic constipation if left to nature, does not improve but gets worse. I could not rely upon the child's confidence in me; for the child howled most horribly at the sight of me-so much so, indeed that I was fain to pack the little fiend and her grandmother out of my dispensary as quickly as possible. I fell back upon Homosepathy. I gave the child Calcarea carbonica, and I fear that if the truth were to be told I hoped I should never see the child again. But she came again after about three weeks. She started howling again as soon as she saw me. There was still a regrettable absence of "simple faith" in her. But the grandmother told me that in thirteen days out of the last fourteen the bewels had acted naturally and easily. I am not saying that the child is cured. I tell the story to illustrate the sensitiveness of children to medicine rationally administered.

One more story relating to children. Dr. Holcombe, whose remarkable experience in the treatment of cholera I have just given you, had once before come in contact with Homeopathy. He was called to see "a fine plump little boy suffering with the worse form of membranous croup." I am quoting Dr. Holcombe's

words. That was more than seventy years ago. We should certainly understand this nowadays to signify diphtheria. Well Dr. Holcombe tried this and he tried that, and the child got worse and worse till his case seemed absolutely hopeless, and he sank in to a "stuporose condition with dilated pupils and congested brain"-again I use the doctor's own words. As a desperate resort, Dr. Holcombe wanted to bleed him. The mother refused, and sent for a homocopath. Dr. Holcombe says. "I was dismissed, not at all sorry that I had escaped the charge of a death which I deemed inevitable. . . The next day I expected to hear of the death of my little patient, but no such rumours reached my ear. The morning after I looked in the daily paper for a general invitation to his funeral, but no obituary was to be found. I was puzzled. I was determined to know who my skilful successor in the case was. Imagine my amazement when I saw the child playing in his father's yard about the middle of the day! II I had been the homoeopathic attendant I should have been not only amazed, but much displeased, at the child being allowed up so soon, but that is by the way.] I was informed that a homocopathic physician had been summoned, that he had put a towel wrung out of cold water around the child's neck and some little sugar pellets on his tongue. The pellets were repeated every fifteen minutes until the breathing became easy, the cough loose, and the patient roused up, from which time the convalescence was rapid."

I propose now to refer briefly to the effect of Homœopathy on domestic animals. The late Dr. John Epps said on one occasion "I treat my horses always with homœopathic medicines and in millionth of a grain doses, and they have had no medicines but homœopathic for the last seven years; and I have not lost a horse." An intelligent layman, a friend of mine, who for years past has used a number of horses in his business, was telling me the other day of some remarkable cases in which he had cured his own horses with medicines administered homœopathically. I may say that my friend himself was converted to Homœopathy nearly forty years ago. The argument that convinced him was

a very cogent one-to him. He was restored to health by a homeopathic prescription after half a dozen allopaths had given him up. The allopaths said: "Make your will and go to Torquay." The homeeopath at Torquay said "Take aconite and Phosphorus, or die in a fortnight." His complaint would appear to have been an unresolved pneumonia, and what we should now call a commencing pneumococcal septicæmia. took the deonite and Phosphorus, and in a fortnight's time, instead of being carried to the cemetery, he rowed a boat from Torquay to Coombe Cellart and back-a distance of seven miles. Now the scene of this story is undoubtedly, in figurative sense, somewhere between Dan and Beersheba, but it is not merely for that reason that I tell it, but because it supplies the key to the following story:

One of my friend's horses was ill with pneumonia and pleurisy, his ears were down, his knees were bent, he was dribbling from his nose and couldn't eat; the vet., who was a clever man and well known in his profession, said that nothing could save the animal, and that it would die that night. "Well doctor," said my friend, "tell me your diagnosis and put it in language that a human being can understand." Well, the vet. told him. "Oh," said my friend, "I've had all those." The vet. laughed, "Well, what of that?" he asked. The owner of the horse replied, "Come as usual every day, and see the horse." "Oh, he'll be dead to-morrow," was the vet.'s reply. Mr. D. sent off at once to get his old Torquay prescription made up; for he thought that what was sauce for the owner's horse. got the medicines, he put two men to sit up all night with the horse and gave him the medicine in alternation. Next day the horse was picking in his manger. He was very soon quite well, and three months later the vet. was wanting to buy him.

My friend's next experience in the homographic treatment of horses was on this wise. He went to a dealer to look at some horses. There was one mare in particular that took his faucy but she had a nasty yellow discharge from the nostrils. The vet. who accompanied my friend said, " It's not glauders. I think

I can put the animal right." The dealer said "Well D., take the mare for three months on trial. I know vou'll feed her well. The price is £33—half her real value, because I can't cure her," For three months Mr. D.'s vet. tried to cure the mare but without success. At last he came one day with his instruments to "trepan" the mare—that is, to remove a round piece of bone, so as to be able to clean out the nostrils every day. "No," said Mr. D., "if you can't cure her, I'll send her back," "Well," replied the vet. "I've given her Arsenic enough to kill everyone in the neighbourhood." "What do you call the animal's complaint?" asked Mr. D. "Oh, it's nasal gleet." Thereupon Mr. D. went off to Paddington to consult a homeopathic vet. "Oh," said he, "Give her Pulsatilla." "What, the same as you give to children with measles?" "Yes," replied the vet., "here is a 2 oz. bottle; take that." Mr. D. paid his guinea, went home, and dosed the mare with Pulsatilla according to the directions. In a fortnight the mare, who was really (my friend tells me) a beautiful animal, was quite well. and she worked for years, taking up to two tons anywhere.

With the next story I conclude these veterinary anecdotes. A horse caught his foot in the tram lines and pulled his hoof off. Mr. D.'s vet., who by this time knew him and his homoeopathic proclivities very well, said, "Well, Mr. D., whatever you can do you can't put a new hoof on him. Better have him killed at once." But the horse was a fine, valuable beast, and my friend who is nothing if not a "trier," said "Sling the horse up." They slung the horse up and lifted the injured foot out of the half-tub of hot water in which it had been placed. The bone was bare and septic-looking, and there was a copious discharge of vellow and green matter. Mr. D. said "Let it be. The animal shall go on spare food, with Silicea every half hour, and two men shall take turns to stay with it night and day." the second day the purulent dscharge had greatly diminished. and a few days later the flesh, as my friend puts it, began to form round the naked bone just like the bark round a poplar that has been badly bruised. After a week or two the horse was

taken out to "saltings"—that is, to the fields by the riverside from which it came back in about three month's time with a short hoof. It was shod, and for years afterwards, without a sign of lameness, it drew a van behind it, often loaded up to two tons.

My efforts to-night have been directed not so much to proving directly the truth of Homopathy as to exposing the fallaciousness of some of the pleas by which it is sought to "explain away the cures of Homeopathy." Incidentally I have furnished certain statistics of treatment on a large scale and some striking instances of drug-cure, which, I submit, do at least establish a case for investigation. As homocopaths, we desire that Homocpathy should be investigated. We do not particularly mind ill-will or hard words, if only our opponents would first of all take the trouble to examine our system thoroughly. The Athenian statesman, Themistocles, when threatened with a stick by a political opponent who dreaded his arguments, uttered the memorable exclamation Πατάξον μεν, ἀκούσον δέ "strike, but listen." We might say the same to our allopathic opponents -" strike but listen." We would offer the other cheek if they would only lend us their ears.

In the very early days of the Christian era when Christianity, although it had grown out of Judaism, yet seemed to the orthodox Jew a revolutionary novelty, the Jews of a certain place were selected by the writer of the Acts of the Apostles for special and unusual praise on account of a very special and unusual virtue—the willingness to investigate dispassionately and diligently what was contrary to their inherited and ingrained prejudices.

"The Jews of Berea were more noble than those in Thessalonica, in that they searched the Scriptures daily whether these things were so." The Bereans showed a truly scientific spirit. Would that the scientific men at the medical world to-day showed a truly Beream spirit.—The Homeopathic World, February 1.1913.

EDITOR'S NOTES.

Legislation Relative to Infants' Feeding Bottles.

The Imperial Government of Berlin has introduced a Bill into Parliament by which not only the manufacture and sale of infants' feeding bottles provided with tubes, but also the importation of such bottles from abroad, are prohibited. The motives of the Bill are that those bottles being difficult to clean are sometimes the cause of gastro-intestinal diseases. The medical press approves of the Bill, because it may contribute to a decrease of the mortality of infants from the diseases in question. In the daily press, however, a correspondent has written in support of an opposite view on the ground that although these bottles have been in use for some 50 years the mortality from gastro-intestinal diseases has diminished. He also states that in Russia, Austria, England, America, and some other countries such bottles are almost exclusively in use, and are for the greater part imported into those countries by German manufactures. He therefore argues that it would be sufficient to prohibit the sale of such bottles in Germany without prohibiting the manufacture of them for export into foreign countries, for the factories where they are made will have to close if the Bill becomes law, with the result that some thousand workmen will lose their employment. A similar law has existed for some time in France, where the decrease of the population has led to such energetic measures.—The Lancet. December 7.1912.

The Decrease of the Birth-rate.

The decrease of the birth-rate is being much discussed in Germany. At a recent meeting of the Statistical Society Professor Oldenburg said that this decrease was a well recognised fact in many nationalities, and that it has occurred in Germany somewhat later than in other countries. According to him the birth-rate stood in connexion with the progress of industrialism. Rural populations were more fertile than urban populations, and the formation of great industrial centres, which have induced many people from country places to settle in towns, has thus contributed to the decrease of the birth-rate. If the population of Germany was nevertheless rapidly increasing, the increase has been caused by a constant decrease of the death-rate. Berlin headed all the other European capitals in the percentage decrease of the birth-rate, and the suburbs of Berlin, which have arisen upon what was formerly agricultural land, had

actually a still smaller birth-rate than the city itself-for instance, Schoneberg had a birth-rate of only 16.4 per 1000. The Minister of the Interior has also dealt with the matter. He has asked the medical chambers for the causes of the phenomenon. His first question was whether the procreative or generative capacity of the population has diminished. The Berlin chamber has answered that this is the case, and that it is caused by the increase of gonorrhea in women and of artificially induced abortion. Minister further asked whether the decrease of the births may be intentional on the part of married couples, and, if so, what may be the motive? The reply of the chamber was in the affirmative as to the first part of the query, and added that the motive for this voluntary avoidance of conception is partly the desire for comfort and luxury by which a great deal of the family income is absorbed, and partly the desire to preserve the family inheritance from subdivision among many descendants propaganda of the neo-Malthusins and the advertisements in the newspapers recommending various anticonceptional methods are also alleged as contributory causes. -- The Lancet, December 7, 1912.

A Plea for the Pigtail.

Dr. Budberg has sent from Charmbin defence of the Chinese pigtail—an appendage which the progress of European civilization now threatens with extinction. He maintains that the pigtail. like many other national customs, owed its origin to hygienic motives, and in one aspect formed the basis of China's ancient civilization. He assures us that the effect of the pigtail is a more active circulation of the blood, which benefits the brain. writes: "The observation we hear now and then that Chinese without pigtails show less intelligence strikes me as not altogether unreasonable, as an active circulation of the blood will not fail to influence the nourishment and development of the brain." He relates how the Chinise give special care to the head even of a newly-born baby, and how it is shaved, and no cloth, cap, or soft pillow is allowed to interfere with the circulation of the scalp. When the child grows bigger, the hair is tied together in bunches, so as to expose the skin to the air, and thus promote perspiration. Later the hair is grown so as to form a pigtail, and superfluous hair is shaved away. The effect of the pigtail is a high and smooth forehead, and a face free from wrinkles; and so even old Chinese show smooth faces and a juvenile appearance. When rolled up on the top of the head, the pigtail acts as a substitute for a can and protects the head from the glare of the summer sun and the cold of winter. It also serves as a neckcloth and a pillow. As a cord, it is ever at hand to check haemorrhage. In addition to these virtues, the author attributes to it an inner and a moral meaning, for it is the symbol of the common nationality of 400 millions of people. Thus have Europeans, in dread of the power of China, adopted a method of protection by enticing the Chinese to become Europeans, and cut their pigtails off. This is the opinion of a European who, as we see, is more Chinese than John Chinaman himself. He neglects to remind us that the pigtail was only introduced by the Manchus somewhere about the middle of the seventeenth century of the Christian era, although it seems to be the fact that at an earlier date Chinese men let their hair grow long, and gathered it into a knot at the top. Still it remains for Dr. Budberg to convince us that the European Delilah is really devising the ruin of the Chinese Samson by tonsorial methods,-The British Medical Journal, December 7, 1912.

Pathology of Diabetes.

In reviewing some of various dietetic cures for diabets Brosch (Wien, med. Woch., No. 27, 1912) endeavours to explain certain apparent idiosyncrasics by reference to anatomical changes in the kidneys and intestines. As regards the kidneys, he says that the fact that they are so commonly found to be hypertrophied in diabetes shows that their reserve power is already used up; and it would therefore be expected that diabetic patients with any from of renal disease might exhibit symptoms from which those with liealthy kidneys are free. That is actually the case is illustrated by the sudden oedema which sometimes follows the administration of sodium bicarbonate to patients who are being dieted on oats. According to Thies, the functional activity of the kidneys depends on a definite relational activity the kidneys on a definite relationship between the ions of sodium, potassium, and calcium in the renal epithelial cells; and this is apt to be disturbed by an undue preponderance of sodium ions as a result of an infusion with solution of sodium chloride. Even with healthy kidneys, renal insufficiency may follow a saline infusion and when the kidnneys are diseased the effect is the greater, as the renal cells are

then already overloaded with sodium ions, and are therefore more or less on the verge of insufficiency. The administration of foods (such as oatmeal or rice) which contain little sodium chloride. but are rich in other alkaline metals, may counterbalance this preponderance of sodium, and promote diuresis with good effect; but if at the same time sodium bicarbonate be given as a medicine the increased diuresis will be hindered by an overloading of the renal epithelium with sodium, and in diabetic patients with renal disease it may give place to renal insufficiency and consequent dropsy. He next points out that diabetes is frequently associated with intestinal stasis, on which it may even be dependent. This stasis leads not only to increased absorption of toxic products, owing to the slow onward movement of the contents of the bowel, but also to flatulent distension of the duodenum, and consequent interference with the hepatic and pancreatic functions. diet, which is comparatively free from the toxic by-products of metabolism, is therefore likely to promote a cure in these cases of intestinal origin, while it completely fails in those due to other causes. As regards treatment, he particularly recommends washing out the intestine with suitable solutions. shown that this procedure not only has a good effect on the bowel itself, and a favourable influence on the blood pressure and the heart's action, but it may also be used to adjust the proper balance of ions in the renal cells. -- The British Medical Journal, December 7, 1912.

Anopheles and Fevers.

The following point taken from a paper on "Quinnine and Intermittent Fevers," by Dr. Kruger, of Nimes, and published in Journal Belge d, Homeopathic for Sept.-Oct., is rather interesting, especially in view of the fact that all European homeopathic physicians are graduates of the same universities and schools from which the "regulars" are graduated. Dr. Kruger says, in effect, that he agrees with Dr. Castellan in his criticisms of the "grotesque theories" which attributes the origin of intermittent fevers to the anophele mosquito, which, at best (or worst it you prefer it), is but intermediary agent transmitting the poison from the marsh. Dr. Kruger cites Italian testimony that is some parts where there are many anopheles there is no fever, while in others where there are none the fever prevails. It looks as if a parallel case might be cited of an

unfortunate who carried the odor of *Mephitis* (the pole cat) on his garments, and some scientists were to say that the unfortunate was the cause of the odor. Dr. Kruger is not defending mosquitoes but merely pointing out errors of certain medical men who jump to conclusions. Such conclusions make men temporarily famous but are of no use to medical science, which, as all know, can be Science only when founded on the immutable rock.—The Homcopathic Recorder, December 15, 1912.

Insanity Increasing.

The Berlin Letter of the Journal A, M. A., Oct. 19. says that in 1817 there were 7,033 insane cared for in Saxony, Germany. In 1910 the number had risen to 14,542. No one disputes the philosophical axiom that there can be no effect without a cause. To-day Germans are better housed, better fed and clothed, have better sanitation and creature comforts than ever before, yet the number of insane have more than doubled in a comparatively short space of time in one state and presumably the same is true of the remainder of the country. What is the reason for this? In the not very distant future this increase of insanity in civilized countries will be a big proposition to face for the taxpayer. This increase seems to be going on in all up to-date regions. The same letter mentions the further statistical fact that the regularity of the insane in suicides is a "striking phenomenon." A curious feature of this is the fact that while the figures per million have risen to 238 in France, 228 in Switzerland, 220 in Denmark, and 207 in Germany, they are only 29 in Ireland and 20 in Spain. Scientific medicine should spare a little time from the microscope and animal experimentation to look into all this, for the increase seems to be right around them. The medical scientist who can trace out the causes of the ominous and relentless increase in insanity, and its twine, suicide. will be a bigger benefactor to humanity than he who discovers a new microbe.—The Homeopathic Recover, December 15, 1912.

Medicine has Become Mere Politics.

The following from A. F. Steven's Presidential Address before National Electic Medical Association will be read with great interest.

"Our forefathers were unalterably opposed to restrictive medical legislation, claiming that matters medical would always adjust them selves to the needs of the people. For a century or more the allopathic school in medicine has been insistent in its demands for

laws to "regulate" the practice of medicine which properly defined, means the suppression of freedom for others. In the guise of humanitarianism and the ever artful 'for the good of the people,'-these political doctors have blinded the eyes of legislators to the true motives underlying their demands until to-day through the various state boards of health and examiners, the allopathic political leaders are in absolute control of the practice of medicine. Made cautious, however, by the experience of the past and partially aware of the ominous signs of the times, they are moving slowly, fearing that should their deeply-hidden schemes become apparent to the people the game they have been playing will be lost. Possessed of an arbitrary power conveyed to them by legislatures these boards make rules and regulations to govern the practice of medicine. They go even further and have assumed that they have the right to prescribe standards for medical colleges, with power to enforce compliance with their rules, or by placing the rebellious college on their discredited list force it out of business. Under these conditions they seem to hold the key to the doors of every college and can close them whenever they wish. Under the present rulings of the courts the colleges have not the right to appeal from the action of the boards. But with all the power they possess they move cautiously fearful that if they advance more rapidly their plans will miscarry. In their artful plea for higher education and better equipment and facilities for teaching they hide their real purpose which is to take away from the minor schools the right to exist. The evident intention., unless checked, is to destroy all opposition in medical practice and when the act is finished, to erect a statue over the grave of Liberty on which they would inscribe, 'In the name of Science.' Religious fanaticism commits its humanity in the name of religion. Medical fanaticism commits its crime against mankind in the name of science. -The Homæopathic Recorder, December 15, 1912.

The Death of Henrietta of Orleans.

Sooner or later a historical tradition will be challenged. Recently a good deal of attention has been given to solving the puzzles of the deaths of various royal personages. The latest to be investigated is that of Henrietta Anne Sturt, Duchess of Orleans. In her case the dislike of a husband, envious of her undoudted political influence and jealous of her diplomatic ability, who showed his spite by suddenly withdrawing her at frequent intervals from the court of Louis, was followed by her painful death but a few days after a

domestic quarrel. The facts were sufficiently suggestive to originate a belief that a cup of chicory water, taken ten hours before she died, had been poisoned by her husband's satellites. Her greatest achievement, the management of the Treaty of Dover (Jun 1st. 1670) took place in the month of her death' On her return after this exploit to France she was loaded with gifts by the king, to her husband's open displeasure. On the 29th, early in the morning, she died, after less than ten hours' suffering. In Progres Medical Dr. Maurice Genty refers to attempts by Brouardel and Legendre to prove that her death was due to natural causes. Professor Pozzi held that she died from a raptured ectopic pregnancy. Little, anatole France, Cabanes, and others have argued that the cause was a subacute peritonitis due to a perforated gastric ulcer. That there was perforation somewhere in the alimentary canal is shown by the fact, mentioned in all accounts of the necropsy, that oil which she took some hours before death was found in the abdominal cavity. But Dr. Fabre, in the book which serves as a text for Dr. Genty's article, points out that the five post-mortem reports agree that the stomach was en bon etate, except for a small laceration made by felix, the surgeon who opened the body. He therefore states that the perforation was doudenal. Dr. Genty declares this theory to agree with what we now know about duodenal ulcer, and finds it consonant with the facts .- The Lancet, January 4, 1913.

The "dead space" of the Respiratory Passages.

A paper by Dr. C. G. Douglas and J. S. Haldane in the current number of the Journal of Physiology raises a question of pathological interest which, as they point out, may prove to have clinical importance. The paper is founded on an investigation of the capacity of the air passages under varying physiological conditions, and is concerned especially with variations in the "dead space"-that is, the capacity of the air passages connecting the alveoli of the lung with the air outside the body. It is a dead space so far as respiratory exchange goes, and variations in its capacity are an indication of contraction or dilatation of the bronchi with corresponding changes in the resistance to air flow. General physiological considerations suggested that the maintenance by the smaller bronchi of a certain resistance to air flow is of as much importance for the even distribution of air throughout the lung substance as is the resistance of the arterioles for the proper distribution of blood throughout the body. If these bronchi remained constant

in diameter whatever the flow of air, the resistance would either be excessive during hyperpnoea or insufficient during quiet breath-The results of the experiments showed an extent of variation which seems to have surprised the experimenters, and is certainly very noteworthy. The condition of the subject (Dr. Douglas in all cases) varied from rest in bed to the exertion involved in walking five miles an hour. The dead space increased very strikingly, and was four times as great in the latter as in the former. The increase in the number of respirations was slight and not uniform. volume of air breathed, nevertheless, was increased by walking at five miles an hour to about eight times, the alveolar ventilation and discharge of CO_a to about twelve times the resting values. The enormous increase in the volume of air breathed, therefore, was almost entirely due to increase in the depth of each inspiration. The depth increased from 457 c.cm. when resting in bed to 3,145 c.cm. walking at five miles an hour, but the respirations only increased from 16.8 to 195 a minute. Even so the breathing was far from being maximal. The authors observe that the local or central reflexes by which the state of contraction or dilatation of the bronchi in various parts of the lung is regulated are not vet understood, though the existence of broncho-dilator as well as broncho-constrictor nerve fibres has been demonstrated by Brodie and Dixon. They think it probable, however, that the regulatioin is as perfect as that of the arterioles, for failure in the regulation would result in imperfect arterialization of the blood, and probably also in emphysema. Whether besides asthma, in which the bronchi are unusually constricted, there are abnormal conditions of bronchial dilatation also is, they point out, an interesting clinical question.— The Brilish Medical Journal. November 16, 1912.

Gleanings from Contemporary Literature.

DUODENAL ULCER.

By T. MILLER NEATBY, M.A., M.D. Cantab., M.A. Lond. Assistant Physician to the London Homeopathic Hospital.

A Few years ago duodenal ulcer would have been described as a decidedly rare complaint, and, as a matter of fact, in the index of cases received into the hospital there was no category of complaints under that name before the last two or three years. It is only comparatively recently that a definite symptom-complex has been associated with ulceration of the duodenum.

As a physician I am anxious, not so much to magnify my office, which really needs no magnification, as to do justice to the surgeon. For the recognition of duodenal ulcer as a disease which is not very uncommon and which possess certain well-defined characteristics, we are largely indebted to the surgeons. The surgeon whose name first springs to the mind in connection with duodenal ulcer is Mr. Moynihan (now Sir Berkeley Moynihan), of Leeds, who has within the last two years brought out a very elaborate and sumptuously illustrated book on "Duodenal Ulcer," running to nearly 500 pages, and containing a record of no less than 305 cases operated on by the author himself. If anyone has a right to speak with authority on duodenal ulcer, it is a surgeon who in less than a dozen years has operated on more than 300 cases—a record surely unique, in this country at any rate. I am auxious to lay stress on his circumstance, because Mr. Moynihan's book is, to say the least, challenging, and-if one may judge from its reception in some "medical" quarters—even provocative. Mr. Moynihan's ability as a surgeon is unquestioned and his experience has been very large-Leeds is his washpot and over Yorkshire he has cast the shoe-but there is a suspicion of dogmatism in his tone which would have been more suitable to a textbook intended for medical students than to a work apparently addressed to the medical profession.

Let us consider first what is to be understood by duodenal ulcer. Any ulcer occurring in the duodenum at whatever age and under the influence of whatever etiological factors may defensibly be called duodenal ulcer. But it is a matter of convenience to limit the term to the peptic ulcer, and it is of duodenal ulcer so limited that I propose in the main to speak.

CURLING'S ULCER.

We know that there is an ulcer of the duodenum, caused indirectly by burns and scalds, sometimes known as Curling's ulcer, but first demonstrated, I believe, by the famous Dupuytren. This ulcer, which is very rare (Moynihan has not seen a single case in twenty years at the Leeds Infirmary, where burns are a common form of accident), and probably a good deal rarer than in the pre-antiseptic days, occurs usually in the

second or third week after the casaulty, and oddly enough is said to be twice as common in women as in men. The ulcer is no doubt toxic in its origin, the toxins being absorbed from the injured surface (which has usually become septic and excreted by the duodenal mucosa. writing twenty years ago, considered upon the analogy of toluylendiamine that the toxins were excreted in the bile and so conveyed to the duodenum. The precarious nature of this analogy was demonstrated three years later by Fenwick who found experimentally that the injection of toluvlendiamine was followed by ulceration of the duodenum even after the ligature of the common bileduct.

SEPTIC ULCERS.

Analogous to Curling's ulcer are ulcers that may develop in the duodenum (as also in other parts of the alimentary tract) as a result of septic processes, for instance, erysipelas, septicæmia, appendicitis. In a paper read in December, 1910. Mr. Jonathan Hutchinson mentioned a case in which definite ulcer and erosions were found in the stomach following upon an operation for suppurating gall-bladder. The same sort of ulcer may be found in the duodenum.

URAMIC ULCER

Perhaps analogous also are the so-called uremic ulcers. Ulceration of the colon is not very uncommon in chronic Bright's disease, and indeed sometimes sets up a fatal diarrhea. Similar ulcers, often single, sometimes multiple, may be found in the duodenum when none are present in the colon. The experimental work of Stassano, quoted by Moynihan, seems to suggest that the duodenal mucosa is a favourite channel for the elimination of those metabolic poisons, whatever precisely they may be. which in chronic nephritis, whether interstitial or tubular, are unable to escape by their natural egress. Perry and Shaw in their account of the "Diseases of the Duodenum,"-in the Guy's Hospital Reports, conclude that in these cases there is a definite causal relation between the nephritis and the ulcer. These uræmic ulcers are not seldom larval and may only be discovered at autopsy, but they may present the symptoms of severe abdominal pain, hæmatemesis and melæna. Moynihan in his book gives a complete list of all recorded cases of uramic duodenal plcer, which are twenty-seven in number. I linger, therefore, at this point to record the twenty-eighth case.

E. M., aged 61, an engineer, was admitted, under Dr. Epps, into Ryland's Ward. For five years past he had been troubled with very severe and intractable headaches, for which he had consulted many physicians, and which were probably an early symptom of that chronic nephritis for the symptoms of which-edema, nausea, increasing dyspnosa -he was now admitted into the hospital. The blood pressure was high (200 mm. of mercury), the left ventricle hypertrophied, there was a thudding second aortic sound, some fluid in both pleures, and a good deal of albumin in the urine. There were also purpuric spots on both arms and a few scattered over the abdomen. That he was auffering from

chronic Bright's disease was obvious. But there was another set of symptoms complicating the uephritic group. The patient was of a profound yellow-lemon anæmia and the stools were tarry. While rectal examination was negative, abdominal examination revealed pain on pressure in the epigastrium, and a mass in the right part of the same region apparently continuous with hepatic dulness. The conjunctive showed a tinge of jaundice. About a week after admission patient was drinking some milk when he suddenly vomited a large quantity of bright red blood. From the collapse of this sudden depletion he died in a short space of time. At the autopsy in addition, to very atrophied kidneys of the "small white" type there was found in the region of the ompulla of Vater an ulcer about the size of half-a-crown. The duodenum with a portion of the pancreas to which it was adherent is preserved in the hospital museum. A point of special interest is the site of this ulcer. In only one of the twenty-seven recorded cases of uræmic ulcer was the lesion situated so low as the ampulla. This situation accounted for the icteric tinge of the patient's skin.

TUBERCULOUS ULCERS.

Tuberculous ulceration of the bowel is, of course, most common in the neighbourhood of the ileo-cæcal valve, i.e., in the end of the small, and the beginning of the large, intestine. But such ulcers may also be found, either singly or in numbers, in the duodenum. In one or two recorded cases it has been believed that the tuberculous deposit in the duodenum was primary. The symptoms of tuberculous ulcer of the duodenum are often indefinite and quite uncharacteristic. Sometimes, however, they are very definite, and the tuberculous nature of the ulcer may not be suspected until operation declares it. Moynihan relates such a case from his own experience. Two years after the operation this patient was quite well. But if the ulcer is secondary to pulmonary tuberculosis, there are some dangers about operating. Moynihan operated upon a patient who had marked "gastric" symptoms, and who was known to have "old and not very active tubercle in the chest." A fortnight later the patient was dead of disseminated tuberculosis. These cases are not common, but I think they teach us to be on the look out in cases of suspected duodenal ulceration for tubercle latent or active. Such a discovery may be exceedingly helpful in treatment. Moynihan quotes a case of a woman operated on for fistula and dying shortly afterwards of most extensive dissemination of tubercles of all grades. In this case the gastric and duodenal mucosa were found post mortem to be studded with small punched-out tuberculous ulcers. In this connection I would cite a case recently in our wards. The man who was seen by me in the out-patient department and sent in for the characteristic manifestations of duodenal ulcer, had also a fistula in ano that had been discharging for a long time. He was good-looking man of 33, of an almost effeminate type, with pink and white complexion. He gave a typical history of burning "hunger-pain" in the duodenal region, with constipation, hæmatemesis and melæna. There was a good

deal of tenderness also in the duodenal region. A Von Pirquet test proved negative, but the discharge from the sinus showed some acidfast bacilli believed by the pathologist to be tubercle bacilli. The suggestion that the sinus should be opened up effectually frightened the patient out of the hospital. It is impossible, of course, in a case of this sort to say whether the ulcer from which the patient undoubtedly suffered was tuberculous in its nature, but in all such cases the possibility of tuberculous should be borne in mind, and a tuberculin reaction should be sought. If there were reason to believe that the fistula was a tuberculous manifestation, I should myself hesitate gravely to recommend an operation either for the fistula or for the ulcer.

MELÆNA NEONATORUM.

I will here briefly allude to the association of melæna neonatorum with duodenal ulcer. This melæna is fortunately a rare condition, estimated to occur in not more than one in a thousand live births. In rare instances of this rare condition the bleeding is due to a duodenal ulcer. Such a rarity is of very little practical importance, more especially as this condition in the newborn seems almost necessarily fatal. Such duodenal ulcers present hæmorrhage as the first and only symptom. Etiologically they doubtless come into line with other ulcers already spoken of and traced to septic causes: for they can generally be traced to some umbilical sepsis causing thrombosis of the umbilical vein. A more interesting condition is the duodenal ulcer seem in older babies—in babies, that is, of from two to three weeks to two or three years. A certain number of cases of marasmus, with or without diarrhœa, are due to, or at anv rate accompanied by, duodenal ulcer. Several cases have been recorded where the overt clinical features were wasting and offensive stools. In some of these cases hæmatemesis and melæna developed at a late stage. In other cases—debilitated cases in which presumably the first hæmorrhage proved fatal-no evidence of hæmorrhage appeared during life, but death occurred rather suddenly with signs of collapse, and ulceration was found nost mortem in the duodenum and a large quantity of blood in the upper part of the bowel. As these cases, even when fatal, do not all come to the table, it is as well to bear in mind the possibility that in marasmus of young children rather sudden collapse and death may point to duodenal ulceration. I observe in this connection that during the hot summer of last year hæmatemesis and melæna were noted at the East London Hospital for Children as "uncommon but grave occurrences" in epidemic summer diarrhœa.

PEPTIC ULCER.

I come now to that form of ulceration of the duodenum to which the term "duodenal ulcer" is usually applied, the peptic ulcer which is the duodenal analogue of gastric ulcer. What are its clinical features? Its symptoms? Its signs? Are these unvarying? Or if not unvarying (for nothing in medicine or surgery is unvarying), are they sufficiently uniform in their appearance and their inter-relation to make duodenal ulcer a

disease of easy diagnosis? And again, most important question; what: is the irreducible minimum of signs and symptoms that will warrant a. diagnosis of duodenal ulcer? In the attempt to answer these questions we are soon up to the neck in controversy.

Undoubtedly there is a clear-cut characteristic picture of fully developed. and unmistakable duodenal ulcer. Let us draw it. The patient is three or four times oftener a man than a woman. His age is between 30 and 50. These two facts, the sex and the age, at once turn the physician's thoughts towards duodenal ulcer in cases of dyspepsia. For some years it may be, he has had a sense of epigastric oppression and flatulent distension, coming on perhaps only after his dinner. His appetite has probably been good and even hearty all the time, his tongue very likely clean. More lately his "dyspepsia" has appeared periodically, especially in cold weather or after exposure to cold, sometimes under the stress of worry or overwork, with remission of, it may be, months during which no symptoms are experienced. The pain, which may be burning, boring, gnawing or "crampy" in character, now comes on at a considerable interval after meals and after all meals, it may be two, three or four hours after food-so long a time, indeed, that patients often stoutly deny that their pain is at all related to food; food, in fact, they say, at once relieves their pain. This pain-Moynihan's "hungerpain"-coming on when the stomach is, or should be, empty, and promptly relieved by taking food, also by taking alkalies, is highly suggestive of duodenal ulcer, and especially if the interval of time is uniformly the same for the same food. Often the pain is less, and felt later when the food is solid than when it is liquid or sloppy, but it is often relieved by some hot liquid. It is often accompanied and relieved by some hot liquid. It is often accompanied and relieved by the eructation of sour fluid or gas. Sometimes it is accompanied by a copious secretion of saliva, the swallowing of which relieves, presumably because saliva is alkaline and so neutralizes excess of hydrochloric acid. The pain is also often relieved by firm deep pressure over the part affected. The site of the pain is the epigastrium or the right hypochondrium, either due north of the umbilicus or a little to the north-west, often near the tip of the 8th rib; the pain may strike through to the back and be located anywhere about the 10th, 11th and 12th dorsal vertebras, often a little to the right of the spinal column and near the inferior angle of the right scapula. The pain may also radiate towards the umbilious or towards the cæcum. The late Professor Dreschfeld, writing in Allbutt's "System of Medicine" says it may radiate definitely into the ilio-inguinal region and mimic renal colic. This I cannot say I have ever observed. In addition to the pain already described there is often a pain of a hot burning character which wakes the patient up between 2 and 3 o'clak in the morning and which again is relieved by food or alkalies. Vomiting of food or gastric contents is only occasional, except in those advanced cases where healing and cicatrizing of the

ulcer have produced a definite stenosis leading to dilatation of the stomach. Vomiting is, however, not rarely artificially induced for the relief that it affords.

Such are the symptoms, as distinguished from the signs, in a typical case of duodenal ulcer. To recapitulate, they are periodic attacks of severe pain, more or less located in the epigastrium or its neighbourhood, coming on two, three or four hours after food or in the early hours of the morning, relieved by taking food or alkalies, accompanied often by acid regurgitation but not by vomiting. The attacks are often initiated by worry or by cold, and in the intervals there is almost entire exemption from pain. The appetite is good throughout.

Upon these symptoms Moynihan is prepared without hesitation to base a diagnosis of duodenal ulcer.

In addition to these symptoms there are the physical signs of epigastric tenderness on palpation in the region of the pain, a corresponding local rigidity of the right rectus muscle, perhaps marked right epigastric reflex, and hemorrhage. The hemorrhage takes the form predominantly of melsena. Melsena may be alone or accompanied by hematemesis, but hematemesis is seldom seen without melsena.

With such an assemblage of symptoms and signs—"hunger-pain" in a man at or approaching middle life, pain which is relieved by food and alkalies, pain located approximately in the duodenal region accompanied by local tenderness and rigidity, often waking the patient in the early hours of the morning, and punctuated by homorrhages from the bowel alone or from the bowel and stomach—the diagnosis is safe.

There is one more sign which extending experience may show to be quite characteristic of duodenal ulcer or at least always found in duodenal ulcer, and that is a positive Cammidge reaction. Dr. Herschell says that the pancreatic C reaction has been present in all of his cases of duodenal ulcer demonstrated at the operation in which it has been looked for, and in the majority of those in which the presence of duodenal ulcer was inferred from the symptoms. I believe that Mayo Robson considers that the Cammidge reaction is always found in duodenal catarrh and that it is consequently found both in duodenal ulcer and in gall-stones. The question whether a positive pancreatic reaction is an essential sign of duodenal ulcer is one that might well be submitted to further investigation.

We have laid down what is practically the inextensible maximum of symptoms and signs. He would be a greedy and unreasonable clinician who would not be happy till he got all these. What about the irreducible minimum? On how few symptoms can duodenal ulcer be diagnosed?

This is a most improtant question, but I am not sure whether any final answer can yet be given. Some cases of duodenal ulcer certainaly fairly easy, to diagnose, but others are quite the reverse. At a discussion of the subject that took place at a meeting of the Edinburgh Medico-Chirurgical Society in March, 1911, a number of eminent surgeons, amongst others

Professor Caird, Professor Alexis Thompson, and Dr. George Gibson, expressed the opinion that duodenal ulcer was a difficult disease to diagnose. Dreschfeld says that in many cases the symptoms are so indefinite that no diagnosis can be made. Nothnagel in his "Diseases of the Intestines" (English translation) says: "The recognition of an ulcer of the duodenum is exceedingly difficult and in the majority of cases the lesions must remain unrecognized.."

Movnihan on the other hand finds the diagnosis of this complaint a fairly easy matter. It is only necessary, he says, to have the definite symptoms detailed above—the patient's anamnesis. While he does not of course omit physical examination, he maintains that the anamnesis is everything and the physical examination is relatively nothing. Duodenal ulcer ought, he holds, to be diagnosed at a stage when there is no single physical sign indicating the presence of organic disease. Hæmorrhage, though occasionally appearing quite early and even as an mitial manifestation, is in Moynihan's view to be regarded as a late sign. "Neither hæmatemsis nor melæna," he writes, "should be considered as among the usual signs of duodenal ulcer; they are both complications whose onset should have been forestalled; they are a witness to neglected opportunities." This passage is picturesquely phrased, and the groping clinician may perhaps be fascinated by its sweeping dogmatism. But on the other hand his scepticism may be more than ever roused. Are these things so? To the medical mind it is a paradox that the well-known hunger-pain, which is relieved by food and alkalies. occurring in the epigastric region several hours after food, or it may be, waking the patient at 2 or 3 o'clock in the morning, associated with burning acrid regurgitations, a good appetite, little or no vomiting, and perfect health in the intervals of exemption, should in the absence of any hamorrhage or any marked epigastric tenderness or rigidity be unhesitatingly referred to an organic lesion. In his simplicity the physician would have said that these were the symptoms of hyperchlorhydria, a disease or symptom-complex which might indeed be associated with some organic lesion but was in itself a purely functional complaint. Such an objection is anticipated, if not entirely refuted, by Mr. Moynihan. "A description of these symptoms." he says "is to be met with in most of the text-books of medicine, under the caption 'hyperchlorhydria' or 'acid gastritis' I am not infrequently met with the objection that the patient's symptoms are indicative of nothing more than 'persistent hyperchlorhydria.' This in England is the medical term for the surgical condition "duodenal ulcer." Again, "the terms 'acid dyspepsia,' 'hyperacidity,' 'hyperchlorhydria,' are . . . dangerous as concealing the fact the condition which causes them is not functional, as is implied, but organic." To the untutored mind of the physican all this seems paradoxical, but a paradox may be true. Moynihan, however, himself, if one may whisper it seems, a little afraid of his own paradox. For in one or two passages he seeks, apparently to sound off its sharp edges. Thus he says "Recurrent (italics mine) severe hyperchlorhydria is duodenal ulcer," and again "the symptoms of 'acid dyspepsia,' if they are intractable and recurrent, are due to a demonstrable lesion, duodenal ulcer" (italics mine).

But is the proposition, even when so modified, true? Are such symptoms, if severe, recurrent, and intractable, to be taken as gospel evidence of duodenal ulcer?

It must be admitted, I think, that there is a good deal of truth in Moynihan's proposition. With due allowance made for a fairly wide margin of exceptions it might perhaps stand. Moynihan says that he constantly operates upon the strength of the history alone (by which he means the history of so-called "hyperchlorhydric" symptoms alone. without hemorrhage), and that as often he demonstrates the existence of a chronic ulcer. In a hundred consecutive operations on patients in whom he had diagnosed duodenal ulcer, an error was made only three times, and in all those three cases some other organic lesion was present. As hæmorrhage has been noticed in only 37.6 per cent. of all his cases, it certainly seems evident that much of what has passed as purely functional hyperchlorhydria is really after all organic and structural. It must be remembered, however, that the cases that come into the hands of a surgeon like M. Moynihan are likely to be cases that have got past the functional stage; the vast majority of hyperchlorhydrias have probably been cured, or cured themselvs, under the care of the physcian or general practitioner. It may not be amiss also to bear in mind the caution uttered by Sir Frederic Eve at a meeting of the Royal Society of Medicine (December, 1909). He said that ulcers were by no means always easy to see on opening the abdomen. Too much stress, he considered, had been laid on changes in the peritoneum as indicative of underlying ulcer. Digital examination of the gastric and duodenal mucosa he thought, perhaps, the only one in some cases that could certainly eliminate or establish ulceration.

Moynihan's extreme statements, for they have operated in such cases with negative results. Professor Caird, of Edinburgh, for instance, says that he has met with cases presenting the so-called typical symptoms of duodenal ulcer in which, nevertheless, no duodenal ulcer was found, and others have told of cases where nothing at all was found. These exceptions, whether many or few, show that there is such a thing as functional hyperchlorhydria. And If there is such a thing, it is difficult to understand why it should not recur (indeed, one would expect it to recur), and why it should not be, like many other nervous and functional conditions, rather intractable; and as for severity of pain it is well known that this furnishes no criterion by which the functional can be distinguished from the organic.

The clinical picture which Moyniban describes, and upon which he thinks a diagnosis of duodenal ulcer may unhesitatingly be based, has

strong nervous features. The attacks may begin and cease with extraordinary suddenness. An attack may be brought on by worry and overwork. Two of Moynihan's patients found that a long week-end at the sea with plenty of open-air exercise free from the anxieties of practice would always cut short an attack in the earlier trouble. "In more than one instance," says Moynihan, "I have known the symptoms to cease abruptly when the patient has been riding or has been in the middle of a game of golf or taking a walk." "In the end," he adds, "the pain may become a matter of daily experience." All this is highly suggestive, and the truth it seems to suggest is that what begins as nervous and functional hyperchlorhydria is very liable to end in a organic ulceration, and that the commonest antecedent of duodenal ulcer is hyperchlorhydria.

But functional hyperchlorhydria is not merely an affair of nerves. And it is induced by other things than worry and emotional disturbance. Else why should hyperchlorhydria be so much more common in men than in women? It is very commonly associated with high living, an excess of alcohol, an excess of tobacco, and a strenuous life all round. The moral of all this in the treatment and specially the preventive treatment of duo denal ulcer is fairly obvious and will be pointed out later on.

The surgeons have in this connection made much play with the fact, or alleged fact, that after all in this condition labelled hyperchlorhydria. it has been repeatedly shown that there is at any rate no uniform excess of hydrochloric acid in the gastric juice; that often, indeed, there is actual hypochlorhydria. The discrepancy between the reports of different observers is very remarkable. One man finds hyperacidity the rule in gastro-duodenal ulceratian; another finds it the exception: yet another finds that it is any odds which will turn up, hyper or hyperacidity. It would be wearisome to quote the figures of various authorities, Sir Clifford Allbutt ("The Neuroses of the Stomach," "System of Medicine") says, "In my recent experience estimates of free HCL, estimates made by experts in the test, have proved very inconsistent, not only as between case and case, but also during the course of individual cases." It is quite possible, as Moynihan himself suggest, that the discrepancy in the results of hydrochloric estimation is due to the different stages of the disease at which the estimates are made, and that in the active stage, when the patient is in the throes of his paroxysm. HCL is probably generally in excess. But even if it were not so the results are practically the same and the title "hyperchlorhydria" remains valid (albeit in any case exceedingly uncouth) if the sensitiveness of the mucous membrane is increasd. What is euchlorhydria or even hypochlorhydria for the ordinary callous mucosa may be marked hyperchlorhydric for the sensitive mucosa. On the other hand, it has been observed that not a few people have literal hyperchlorhydria, that is, a proportion of free HCl in their gastric juice greater than the average or

the normal, and yet present no symptoms and feel no inconvenience; which means that their mucous membrane is less sensitive than the average and tolerates an amount of free HCl that would be resented by an ordinary mucosa.

Now if this is so, that is, if we have in all these cases to take account of hyperchlorhydria, whether absolute or relative, not only is the ready relief of pain both by food and by alkali explained (and it is difficult to explain in any other way), but the strong tendency of the hypersensitive membrane to ulcerate is readily understood. As has often been remarked, the part of the duodenum at which ulceration usually takes place is precisely the part against which the acid chyme from the stomach is projected when the pylorus relaxes.

It is also probable that many of these patients suffer, not so much from hyperchlorhydria strictly so-called as from hypersecretion -i.e., excessive secretion of a gastric juice which may hold a normal content of HCl although as a matter of fact hyperchlorhydria often goes with hypersecretion. Hypersecretion, to the extent of three or four times the normal amount of gastric juice, was observed by Pawlow during the development of a gastric ulcer in a dog. This hypersecretion, occurring intermittently or paroxysmally, is continuous for the time being, that is to say, it takes place in the fasting stomach and not merely under the stimulus of food. This is the "gastroxynsis" described by Rossbach, and it explains the burning pain that wakes a patient up in the small hours of the morning when the stomach is empty of food and explains also the magic relief from food and alkali. Acute hypersecretion is often found in cases of ulceration and should probably always raise a suspicion of ulcer. But it is not pathognomonic. Soltan Fenwick says that it is often brought on by excitement and fatigue. He has also on several occasions observed characteristic attacks of this "gastroxynsis" in young girls just before the onset of the menstrual period. Moreover, it is found in connection with the gastric crises of tabes dorsalis. All this points strongly to the nervous character of the phenomenon.

I conclude then that "hyperchlorhydria" is a syndrome that often, but not always covers definite duodenal ulceration. Amongst other reasons for this conclusion is the fact that the "hyperchlorhydria" symptoms are sometimes found at operation to be due to gastric, not duodenal, ulcer. One of the hospital cases that I shall shortly bring before you illustrates this fact. The profession is indebted to the surgeons who have shown us how "much commoner duodenal ulcer is than was formerly believed. (Dr. Spriggs, of St. George's Hospital remarks with sly humour that the patients also who have been operated on should receive the gratitude of the profession for their contribution to an important new chapter in experimental medicine.) I conclude also that there is a tendency in hyperchlorhydria, at first functional, to develop into the organic condition known as duodenal ulcer. This is further borne out by the fact that at an operation undertaken upon the

strength of the hyperchlorhydric symptoms which Moynihan regards as the symptoms of duodenal ulcer no ulcer was found, and yet later on at the post-mortem such an ulcer was found, that is, what was mere hyperchlorhydria at the time of the operation has become ulcer at the time of the autopsy.

It follows from this that mere attacks of hyperchlorhydria, without very definite physical findings and without hæmorrhage, do not warrant a diagnosis, though they may warrant a suspicion of duodenal ulcer, and therefore, unless refractory to medical treatment (as would be shown by a tendency to relapse at even shorter and shorter intervals) they do not warrant operative interference.

If the subjective manifestations are inconclusive, are there any objective manifestations short of hæmorrhage which will help us? Well-marked and constant resistance and tenderness on palpation in a constant limited area of the epigastrium or to the north-west of the umbilicus may, in conjunction with the subjective symptoms already detailed be reasonably held to justify a diagnosis of duodenal ulcer. If when the pain is acute the right epigastric reflex is strongly marked, this adds to our certainty. In gastralgia or functional hyperchlorhydria there is either very little tenderness or resistance anywhere, or there is a diffuse hyperæsthesia all over the upper part of the abdomen and perhaps elsewhere as well.

Local tenderness and rigidity, however, are sometimes not present, especially if the ulcer be not on the anterior wall of the duodenum. Indeed Moynihan says that they are only well marked in a small proportion of cases, and then only when pain is actually present. My own observations would not lead me to this conclusion. When pain is actually present, deep pressure often relieves it, although in calmer intervals it is resented. This, perhaps, is when the pain is distinctly spasmodic and causes a patient to bend double, the pain being due in fact to spasm of the pylorus. This spasm, I suppose, is protective in its nature and designed to keep the acid contents of the stomach from impinging on the ulcer.

I pass now to hæmorrhage as a sign of duodenal ulcer. Gross hæmorrhage in the form predominantly of melæna or of obviously bloody stools and subsidiarily of hæmatemesis, puts the diagnosis beyond all cavil, if care is taken to exclude certain possibilities such as hæmorrhoids and hepatic cirrhosis. But gross hæmorrhage must surely point to an advanced process. The ulcer (I an speaking of chronic duodenal ulcer) must have existed for a considerable time before there is gross hæmorrhage. Moynihan is undoubtedly right that we ought to try to diagnose ulcer before this stage. Now there is, as have been learning of late years, hæmorrhage other than gross. An examination of the fæces for occult hæmorrhage will often enable us to diagnose duodenal ulcer at a relatively early stage. Such an examination should be instituted, as Dr. Mac Lennan has reminded us after elimination of red or underdone meat

from the diet. A very large number of Moynihan's cases, diagnosed upon subjective sensations alone, would, had the search been made, have shown the evidence of occult hemorrhage. Moynihan tells us himself that in 20 consecutive cases examined in 1911 occult blood was found in 10. Dr. Craven Moore, of Liverpool, found occult blood in 100 per cent. of his cases.

Hæmorrhage is sometimes quite an early symptom. It may even be the initial symptom, the patient having never complained of anything except perhaps some trifling ill-defined and occasional indigestion. As some patients are extremely unobservant of their evacuations, melæna may for quite a long time escape notice while anæmia is gradually becoming more and more profound. A history of fainting in a man—or in a woman either—who is subject to severe indigestion should arouse a suspicion of duodenal ulcer in which melæna is going on unnoticed. Two or three years ago I was sent for to see a lady of 32, a school teacher who had recently suffered from attacks of severe indigestion and had more than once fainted, a thing she had never been subject to. An investigation of the stools promptly revealed melæna, and indeed, red blood in the motions.

I shall deal with diagnosis later, but I will at this juncture refer to a possible confusion of duodenal ulcer with some other disease, and especially with some blood-disease, that is characterized by hæmorrhages. Where there is profuse hæmorrhage from the stomach or bowel, it is natural to refer it to ulceration. But it may be due to spleno-medullary, leukæmia, or splenic anæmia, or hæmophilia, or hepatic cirrhosis. A careful investigation of the personal and family history and an examination of the abdomen, followed if necessary by microscopic examination of the blood, will usually put the physician on the right track. Moynihan tells of two cases in which he was summoned in urgent haste to operate upon patients who were losing perilously large quantities of blood by stomach or rectum and had had vague dyspeptic symptoms; in both cases he discovered an enlarged spleen and negatived the diagnosis in consequence. On one occasion he operated for hæmorrhage upon the supposition that the case was one of ulceration, and found that the patient was a "bleeder."

Etiology.—I have purposely postponed speaking of the etiology of duodenal ulcer until after a clinical description of the disease has been set before you. Some, if not most, of the non-peptic ulcers of the duodenum seem to be toxic in their origin. In burns, for instance, toxins are absorbed from the ulcerated surface of the skin and are eliminated by the duodenal nucosa. Similarly with duodenal ulcers in melsena neonatorum. The poisons of uræmia may likewise be excreted in the duodenum, causing uramic ulcers. Moynihan extends the analogy to the peptic ulcers of both stomach and duodenum. He says, "There can, I think, be no longer any question that both gastric and duodenal ulcers are secondary to some toxic or infective process, the various stages of the disorder being infection, congestion of the gastric mucosa, with

erosion . . . superficial ulceration . . . and finally chronic ulcer." I have myself noticed more than one case of gastric ulcer developing very soon after appendicitis and have concluded that toxins formed in the appendix were carried by the blood-stream to the stomach-wall and there set up congestion and necrosis. Mr. Paterson, of the Temperance Hospital, relates a very interesting case of a lady from whom he removed a very large appendix containing foul-smelling concretions in October, 1909. He was particular to observe at the time that there was no gastric or duodenal ulcer. After remaining fairly well for a few months, she became suddenly worse and had several attacks of hæmatemesis and melæna. Mr. Paterson again operated, and then found a duodenal ulcer adherent to the liver. Similar associations of duodenal ulcer and catarrh with cholelithiasis have been noticed.

I do not know whether all gastric and duodenal ulcers can be referred to such processes, but it is not impossible. Take the case of gastric'ulcer. This disease is perhaps almost as characteristic of young women as duodenal ulcer of middle-aged men. What is its most common accompaniment and predisponent? The moderate elevation of temperature very commonly seen in this form of anomia, as also in the various forms associated with enlargement of the spleen, points to a toxic cause. It seems highly probable that the toxin, whatever it be, that causes chloro-anœmia also causes gastric ulcer. Take now the case of duodenal ulcer. What is its most common accompaniment and predisponent! Hyperchlorhydria. Now, is there a toxic cause for hyperchlorhydria? Certainly, there very often is. It is impossible not to ask ourselves, "Why are men in middle life, or early middle life, selected for this complaint?" And it is impossible not to think that alcohol and tobacco must, in a number of cases, be essential factors, for these are luxuries much more iudulged in by men than by women. But alcohol and nicotine are not the only toxins at work. We notice that these are usually men of hearty appetite who have eaten well, that is to say, have eaten too much, have eaten too fast, and have generally gone the pace. Nature has borne with their youth, but exacts a penalty from their middle-age. Metabolic home-made poisons have been absorbed, and eliminated with more or less success by the duodenum. But it is the same class of poisons in this same class of patients that produce arterio-sclerosis (or, as Sir Clifford Allbut prefers to call it, athero-sclerosis), and one is tempted to surmise that in some, at least, of these cases the vessels that supply the duodenum are atheromatous and degenerate, and liable as a consequeuce to rupture. If this be so, melæna and hæmatemesis may in certain cases be the expression of a "duodenal apoplexy." In addition to indiscretions in diet, both as regards quantity and quality (indiscretions to which men are notoriously more prone than women), worry and mental overstrain play an important part in the production of hyperchlorhydria and duodenal ulcer. The possible association of these complaints with gout now becomes evident.

Arbuthnot Lane traces duodenal ulcer to intestinal stasis caused by the "ileal kink." Most of man's bodily ailments appear to be due to this ileal kink. It even threatens to become fashionable to do an ileocolostomy on small children as a remedy for tuberculous disease of the hip. Moynihan says, by the way, that in all his abdominal operations he has only been able to make out an ileal kink in a very few cases.

Diagnosis.—The chief diagnostic difficulties are in conection with gastric ulcer, gall-stones and appendicitis. (I have already considered the diagnosis form simple hyperchlorhydria.)

- (1) Gastric Ulcer.—In clean-cut cases the diagnosis is not difficult. In gastric ulcer the pain comes on fairly soon after food and is aggravated by more food; it is found predominantly in young women; it does not seem to be at all related to cold changes in the weather, and it is not marked by nocturnal attacks. Vomiting, too, is the rule in gastric ulcer. If and when there is homorrhage, it takes predominantly the form of homatemesis. All this, of course, is altered in classical duodenal ulcer. There are, however, exceptional cases where "hunger-pain" is found, which yet is caused by a gastric ulcer. An illustration of such a misleading case will be given presently. Two or three instances are recorded amongst Moynihan's cases. Pain, though often in the mid-line in duodenal ulcer, has a tendency, not found in gastric ulcer, towards the right side. The same is true of tenderness on palpation.
- (2) Gall-Stones.—An actual excess of HCI in the gestric juice is not rarely found in cholelithiasis, and shows itself as heart-burn, but it seldom produces the sequence of symptoms seen in typical ducdenal ulcer. Again, pain in gall-stones comes on much sooner than in duodenal ulcer—as soon, indeed, as in gastric ulcer. The pain, too, is more severe, and is accompanied by a nausea and vomiting, but rarely seen in duodenal ulcer, and often also by sweating, and chills followed by heats, events not found in duodenal ulcer. A pain definitely localized in the right scapula is suggestive of gall-stones.
- (3) CHRONIC APPENDICITIS may mimic ulceration, either gastric or duodenal. Pain is felt sometimes a short time, sometimes, a long time, after food, there is often vomiting (which relieves), flatulence, and acid eructations. Moynihan says that in not a few of these cases hæmatemesis or melæna is present. If this is so, it points to an erosion in the gastric or duodenal mucosa which is secondary to, or possibly merely concident with, the appendical lesion. If secondary, it is due to toxins absorbed from the appendix. It is interesting to note that in this condition, as in gall-stones, true hyperchlorhydria is often present. This chronic appendicitis producing what has been called appendix-dyspepsia, may be diagnosed from duodenal ulcer by the fact that, if a careful examination of the abdomen be instituted, tenderness on deep pressure over the appendix region, or at any rate not above the level of the umbilicus, will be felt and such pressure will often reproduce the epigastric pain and nausea that

usually follow the ingestion of food, these symptoms, through sometimes more intense and sometimes less, are constant, whereas in duodenal ulcer the patient gets periodical attacks with intervals of exemption. The two troubles sometimes co-exist, and therefore if operation is undertaken for ulcer the appendix ought always to be examined and, if cause is found, removed.

(4) Having already referred to the confusion that may sometimes arise from the copious hæmorrhages of the anæmias and other blood dyscrasic, I have only to mention now the possibility of mistaking the gustric crises of tabes dorsalis for gastric or duodenal ulceration. Here again there may be an excess of HCL in the gastric juice. Such cases sometimes get operated upon. There was a case lately in the hospital which had been operated upon elsewhere. Moynihan has operated on a few cases of this sort, whether in the expectation of finding an ulcer I do not know, and with characteristic courage he says that he thinks gastroenterostomy has given them considerable relief. Drummond and Morison of Newcastle (British Medical Journal, July 10, 1909), say that tabetic patients with gastric crises are frequently made worse by operation. Routine examination of the eyes and deep reflexes and careful investigation of the history will in nearly all cases prevent confusion of ulcer and tabetic crises.

Late complications of duodenal ulcer, such as perforation acute or subacute, may be exceedingly difficult, not to say impossible, to diagnose, if, as sometimes is the case, there have been very few preceding symptoms unequivocally indicative of duodenal ulcer. Thus subacute perforation in the neighbourhood of the pylorus greatly resemble cholecystitis. But we are not so much concerned with perforation now, as that is admittedly a purely surgical condition.

Sequelæ.—One word on the possible sequelæ of duodenal ulcer. One of the commonest is that which often results from the healing of an ulcer, namely, a stenosis in the first part of the duodenum. The symptoms are the symptoms of pyloric stenosis, viz., symptoms of gastric dilatation; I need not enter into these. Some duodenal ulcers have remained latent until symptoms of gastric dilatation have developed.

Other sequelæ arise from the proximity of the duodenum to other viscera and especially to the pancreas and biliary passages. The duodenum may become adherent at the site of ulceration to various neighbouring structures and as the base of the ulcer gives way a fistula may be established. Thus a fistula may be established with the common bile-duct, with the colon, even with the aorta, and has caused thrombosis of the portal vein. The cicatrical contraction of an adherent ulcer may result in stenosis or even obliteration of the common bile-duct. The same thing, together with a stenosis of the canal of Wirsung, may come to pass when, as sometimes happens, the duodenal ulcer is situated near the papilla of Vater. In either case jaundice will be a feature of the case, d if the earlier course

of the disease has been latent or larval the jaundice may well be referred to conditions connected with the biliary tract, such as impacted gall-stones. Even where the papilla is not actually included, there may be an ascending catarrh of the biliary passages. Again, the base of the ulcer may become adherent to the pancreas, and the pancreas may in fact become deeply eroded. Glycosuria as well as jaundice may then supervene and a severe constant pain is felt in the back, like the pain of acute pancreatitis. Mr. Wright had a case in the hospital a few years back in which a gastric ulcer had eroded the pancreas and a neoplasm had developed upon the ulcer.

Another sequel, though fortunately not a common one, is carcinoma developing on the ulcer. Professor Alexis Thompson, of Edinburgh, in the discussion on duodenal ulcer already referred to said that, whereas a chronic gastric ulcer often became carcinomatous, he doubted if this was ever so in duodenal ulcer. But I notice that an editorial note to the English edition of Nothnagel's "Diseases of the Intestines" says that at least ten instances of carcinoma developing on duodenal ulcer have been reported. The Mayos, of Rochester, U.S.A., have reported a few.—The British Homeoputhic Journal, December, 1912.

(To be concluded)

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THE SCIENTIFIC BASIS OF VACCINE THERAPY
AS A HOMŒOPATHIC PROCEDURE.

BY CHARLES E. WHEELER, M.D., Lond., B.Sc.

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The first question that meets us is, how far is vaccine therapy homoeopathic? After the brilliant paper read by Dr. Hare before the British Homosopathic Society a month or two ago, I am not going to delay over a description of the method of preparation of vaccines in detail, but it my be summarized thus: Certain diseases are due to the multiplication in the body of certain organism and the manufacture by them of toxins; to these attacks the body offers a definite resistance which varies with different diseases but remains constant for any one disease. The problem of relief or cure is, in the main, therefore, the problem of encouraging a specific bodily process, and experience shows that the agents that very materially aid in the matter are agents manufactured from the very organisms and toxins that are the causes of the diseases. Further, they are best administered in small doses, as large doses entail great risk of aggravation; therefore, the parallel between vaccines and remedies homosopathically chosen is so complete that it is freely admitted The distinction between by many of our orthodox brethren. isopathy and homosopathy is one that does not disturb the

orthodox mind, but a word or two on the point is due to this sudience. Vaccines as prepared are not identical with the organisms living in the body. They are made from the organisms grown on culture media, which process introduces a first difference, then they are killed by heat which modifies them further, even if no chemicals be added to the preparation. In as much as they are derived from the identical bacilli that cause the disease the preparations for cure are assuredly very like the agents that cause, but they are not indentical. Often, to obtain successful results, they have to be made from the very strain of organisms present in a particular case. Stock vaccines often fail, but nevertheless the modifications are introduced in preparation and the relation between stock vaccine and autogenous vaccine is the relation between simile and simillimum. Therefore, I contend that the practice is homeopathic rather than isopathic. Isopathy would be rather the practice of auto-inoculation as performed for tubercle at Frimley, and occasionally experimentaly in other diseases. Here the patient is given a larger dose than usual of his own manufactured toxins, and this is as near isopathy as can be. It is often very successful; possibly the mechanism of cure differs from that set in motion by vaccine. I will return to this point later, only reminding you that it is one of the glories of homeopathy to have unwearying in experiment and faithful to practical results achieved and confirmed by repeated clinical experiments, even when the theoretical explanation of such results has been delayed or absent. If we are sure that our clinical experiments are well conducted, then, while searching eagerly for this explanation, we can continue to practise them and depend on them.

Vaccines, then, are vegetable remedies prepared from vegetable organisms and strictly analogous to vegetable tinctures. Like them they can be diluted and the discussion will, I hope, bring out results obtained from such dilutions. The vaccine as prepared corresponds to the mother tincture. The method of the unit dose is universally employed for its use although the dilutions are sometimes repeated in administration. Vaccines we owe entirely

to the labors of the bacteriologists, but before they were made certain homogopathists had invented and used the nosodes so called made from diseased tissues: and nosodes are directly comparable to vaccines. In so far as they are active they must be held to contain bacterial toxins, if not actually bacteria; and also as the original substance from which they were made was tissue, it contained, probably, cells modified by bacterial attacks and possibly antibodies. Nosodes are therefore of more complex and more indeterminate constitution and if practice proves that their only really active principle is derived from the bacteria or their toxins, it would seem preferable to use the latter only as in vaccines. I can find little difference in action, for instance, between bacillinum and tuberculinum in potencies, though I think there is some, and, as tuberculinum can be standardized, it seems a preferable preparation. Nosodes (if we except Dr. Duncan's experiments in America) have only been used in potencies. It is only fair to add that it is conceivable that the body would react differently, perhaps even more effectively, to the stimulus of bacteria and toxin, plus modified body tissue (the nosode stimulus), than to the stimulus of bacteria and toxin alone (the vaccine stimulus). I have a recollection that some time ago the results of some experiments were published which pointed rather to a superiority in the nosode stimulus, but they were not followed up and I have been unable to trace them. The recent work of Dr. Leonard Dudgeon attacks the problem from a different point of view, and not being directed to this precise end the experiments are not conclusive concerning it. point perhaps, is an academic one; practically we can take it as established, that vaccines are definitely active agents in the cure or relief of their corresponding diseases, and from our point of view as homoeopathists there is more than a little ground for considering them as remedies homeopathic to the conditions for which they are used. This granted there are several points of interest for us to consider. First, how do the vaccines cure or relieve? We may say, in a general way, by stimulating the production of antibodies. But why is the presence of bacteria

and toxins due to disease not in itself a sufficient stimulus? Frequently, of course, it is, and spontaneous recovery is fortunately a common phenomenon. In many cases we have no more to do as physician than tide over patients till the time of natural recovery; or, rather, in many cases that is all that is done. It is nevertheless probable that always there is a possibility of enhancing the speed of a sufficiently effective recovery, and now and then of aiding a defence, in itself ineffective, to become effective. These last cases we should call genuine cures, and although it is all but impossibe to recognize them individually, results taken in the mass show that they do occur. Further, in many cases, the chronic cases, there is little or no spontaneous impulse to recovery. How in all these cases does the vaccine prove more effective as a stimulus than the actual disease? Perhaps not always in the same way. Especially in chronic diseases there is a natural tendency to localize infections to certain areas, more or less mechanically, by fibrous or other barriers. Within those areas the power of resistance is rapidly lowered or lost so that the germ can flourish, but little or no germ stimulus passes beyond the barriers, and thus little or no use is made of the resisting power of the rest of the body. though it is probable that all cells and tissues possess more or less of this resisting power. In these cases the vaccine introduced beyond the barriers does call out a widespread response, and although it is not always easy to get the enhanced resisting power into the diseased area, yet when this can be done (and certain mechanical or surgical procedures can often aid in doing it) improvement or recovery follows. This appeal to areas of untapped resources is probably the mechanism of cure in auto-inoculation (isopathy). More blood is driven through tubercular areas, for instance, by the labour at Frimley, the pressure of germ-poison rises in the non-tubercular areas because of the increase in the load carried by the blood, more resistance is developed, and in its turn conveyed back to the areas which need it. But in acute and subacute diseases there is no such predice limitation of germ and toxin attack to certain areas.

Yet we find both that there is sometimes a certain slowness in developing the defence, capable now and then of being accelerated by vaccines, and also sometimes a certain sluggishness of response, apart from the time needed, which can be overcome by vaccines. And these statements are, I believe, true, in spite of the fact that to use vaccines in acute diseases is a procedure of some risk, and must not be undertaken without a realization of its dangers. Nevertheless, the results now and then obtained in malignant endocarditis show that out of the nettle-danger safety may be sometimes plucked. Here there is no question of untapped resources. What then, is the explanation of success? There are no grounds for a dogmatic assertion, but I suggest that the reason lies in the homoeopathicity of the vaccine. We are familiar with the fact that during life there is always a reserve power in the cells which is only used in times of great emergency—a deposit account, as it were, as well as a current account, and one which requires time, notice, and the fulfilment of certain formalities for its use. Sometimes the cells seem very loth to draw on it, even with time and urgent appeals. The vaccine is not identical with the toxin. It makes a slightly different appeal, and one to which the body responds. (Note that it does not always respond to this either; more is to be said on this point later—for the moment consider only the successful case). The response, though not identical to that required by the toxin, is yet near enough to serve as antibody, rather as though when a man cannot for some reason realize securities for an emergency, his bank should make him a loan: but there the parallel breaks down, for by the protoplasmic law of Weigert, stimulus once it is effective calls out a reply that continues both in time and intensity out of all proportion to the stimulus—the bank, as it were, pressing money free of charge on its customer till all his needs are more than supplied in a way that cetual banks are hardly likely to do. Nevertheless, deficiencies in life as in finance have ultimately to be made good. Hence the phenomena of convalescence. Here, then, we do not tap unused areas, but tap the areas exhausted or

sluggish for the exact antibody to obtain an antibody sufficiently like to serve, as though a nation having worked out gold mines, should find in the same area silver mines previously aeglected but sufficient to enable it to meet a stress of war or famine. And in some such way must we conceive the action of the indicated remedy as distinct from the vaccine, or at least there is evidence that its action is sometimes of this kind. We can only conceive of recovery as a natural process. The drug sets in motion or encourages a natural mechanism: it does not work a miracle. Correspondingly, such tests of the presence of antibodies as can be applied do seem to show increase as a result. of the influence of appropriate drugs. That phosphorus can affect resistance to tubercle, veratrum viride to pneumococcus. hepar sulph. to staphylococcus, rests on a foundation of experiments made by followers of Hahnemann, while the orthodox physicians have found that yeast affects resistance to staphylococci and creosote to pneumococci. This, after all, is no more than we should expect, and with the remedy, as with the vaccine. the stimulus is applied to a body mechanism, and by Weigert's law, continues to work after the stimulus is exhausted; therefore. the method of unit doses can be applied with drugs as with vaccines. For both vaccines and drugs there is probably always an optimum dose and an optimum interval between doses, though both are individual to the case and not always easy to discover. There are two methods of using vaccines in chronic diseases: the method of the single dose left to work out its effect and repeated when the effect seems exhausted, and the method of muraulative doses. The first method is the one most akin to our usual unit dose drug-giving, unless we are to assume that to give dilutions of 200, and 10 m and upward after beginning with 30, is analogous to a cumulative action. Both vaccine and drug may show an initial aggravation or reaction before improvement occurs, and many practitioners like to get this reaction and do not feel confident that they are on the right road till they do get it so that in repeating, if they find a certain dose no longer causes it, they are apt to increase the dose; and in

the cumulative method of administering vaccines, which is especially employed in chronic tuberculosis, the aim is as rapidly as possible to enable the patient to endure very large doses without ill-effect, to which end the quantities administered are rapidly increased, although the aim is to avoid any reaction of any severity during the process. Now both methods of administering vaccines, the cumulative and the single dose non-cumulative, can show good results, and possibly each has its appropriate sphere. At any rate, I do not feel that there is enough evidence yet either way for a dogmatic statement. But I confess to a predisposition in favour of the non-cumulative method. The cumulative method involves certain risks, and we know that the production of antibody is not in constant mathematical ratio to the amount of virus employed. The body has an extraordinary power of becoming tolerant to any poison, and perhaps can establish, say, a tuberculin habit as well as an opium or arsenic habit. If it does establish such a habit, then the final large doses are certainly rendered necessary, just as De Quincey needed more and more opium before he obtained the effect which he desired, but they are only necessary because, by too rapid and continuous appeal, the power of response has been dulled. If a dose is allowed to work out its effect and be done with, then the simple repetition will repeat the effect, for the power of response is not exhausted. Further, if there is clinical improvement I am not convinced of the need of any obvious aggravation or reaction. There may be quite an effective response without necessarily giving rise to marked symptoms. However, that point is of less importance, and reactions are useful sign-posts to the road to recovery.

There is another group of considerations of interest to the homeopathist. If a disease is due to a distinct germ, if resistance to the germ can be stimulated by a vaccine, then at first sight it would seem that vaccine therapy should have no failures unless there is no power in the body to respond, in which case death must ensue ultimately with any treatment. Yet, of course, it does fail sometimes apart from death, and the investigation

of the causes of failure should, as always, lead on to new successes; therefore, a short consideration of the possibilities may have a value. First, the power of the body at large may be raised, but it may be mechanically difficult to get the increased autibodies to the strongholds of the bacteria. Herein many surgical procedures are required, and methods of increased bloodsupply to localities. Secondly the infection may be a mixed one, and failure may come from lack of a means of attacking all the offending causes. These two causes of failure are well known and can be dealt with, and in this connection some investigation notably those of Dr. Allen, are of great importance. The phenomena of symbiosis, or the effects of the proximity of one germ on another, are noteworthy and significant. For instauce, the toxins of one germ sometimes seriously affect body resistance to those of another: we know clinically how influenza predisposes, to other diseases, and how the later stages of pulmonary tubercle are practically always complicated with streptococci and staphylococci; and not only the later stages, for a streptococcus often precedes tubercle, and seems to predispose thereto. On the other hand, tubercle and chronic pneumococcus seem to me, speaking clinically, to be antagonistic, and the relations of symbiosis are not always unfavorable to the body. Dr. Allen maintains that when there is a mixed infection the vaccine should be made from the germs actually grown together in culture media, so as to bring out the symbolotic relations. Rosenbach's tuberculin, to my mind perhaps the most satisfactory of tuberculins, is made from tubercle grown together with trichophyton but there remain cases wherein the resistance to the germ that seems the cause of disease is duly raised, and yet the patient does not What remains to be done? Probably here we are dealing with remote effects of the bacterial attack. The prolonged exposure to toxins has damaged more or less remote organs or thrust impediments into the mechanism of organic stimuli, of whose complexity we catch to-day a few glimpses. The germs may be attacked and routed, but these effects remain. in acute diseases, there may be an excellent response to the

specific antigen, and yet, from some preexisting weakness or defect, some tissue cells outside the ordinary line of attack may give way; the bacteria may, as it were, fail in the frontal attack and turn an unguarded flank; and a typhoid patient, for instance may deal promptly with the bacillus and yet possess in some other organ, say, lungs or heart, tissue that cannot endure even an attack that is promptly responded to, tissue which may fail and endanger life, while the ordinary antibody mechanism is working well. We know that every case is individual, yet antibody mechanism for any disease is almost certainly universal. Can we not, perhaps, explain the individualizing symptoms as expressions of the individual weak points in a threatened organism, while the characteristic diagnostic symptoms largely express the universal response to the bacterial attack? If this is so we can realize how vaccine therapy may sometimes fail. Of all socalled pathological prescribing, it is the most pathological. I object to the term, and would like to substitute morbid anatomical, for surely there must be a pathology of some sort underlying for surely there must be a pathology of some sort underlying every morbid symptom, even if the cell change that accompanies, it is not gross enough for our perception. But of pathological prescribing, as it is generally understood, vaccine therapy is one of the clearest examples, and it possesses both the advantages and the defects of the method. Its advantages are that the recognition of the causative germ decides the drug without further ado, therefore it is a simplification; further, the modus operandi of the remedy can be conceived clearly by the mind, therefore it is a plausible treatment. On the other hand, suppose such a case as I have outlined above-where the powers of antibody formation require little stimulation, being naturally active, but where there is a tissue weakness that is revealed under strain, although the specific resistance is well developed -in such a case (and we are bound to admit the possibility of such a case, seeing that the result of vaccine therapy is not always as satisfactory as the result of putting pennies in the slot of an automatic machine) the clinical picture will present the symp-

toms and physical signs of attack and defence whereby we make a diagnosis, but over and above these it will present the symptoms due to the strain on the tissues of the body that are below the normal level. These will be the symptoms peculiar to the individual. Now, in choosing a remedy by the whole symptom picture, we shall have to take account of these symptoms. If they are urgent they will become the principal ground of choice. Yet if the remedy has a dynamic relation to them, its administration will be wise, for so the struggling cells will be kept to better working pending the time that the natural defence overpowers the invader, and the prescription by totality of the symptoms will be justified, although the remedy indicated has no power over the mechanism of bacterial defence. Dr. Clarke, for instance, records a case of rheumatic fever recovering rapidly under ignatia when bryonia had failed: the indications were mental. I conclude, not that ignatia has any power in stimulating resistance to the micrococcus—that is at least not proven -but that the case had good enough natural general resistance to deal with the germ, but was troubled by the fact that the higher brain centres were less able than those of many patients to endure the stress. Once these centres were helped by the ignatia, the rest of the recovery proceeded readily enough. the other hand, there will be many, probably a majority of cases, wherein it will be the normal defence mechanism that requires a stimulus. There is some direct evidence, I repeat, that certain of our drugs can achieve this, and they will be those whose relation to the disorders is of the kind we call pathological, in addition to specific vaccines. The administration here of the " puthological" remedy is sound, but they will surely be those cases with no marked symptoms except those obviously traceable to attack and defence, the sphere wherein help is needed. When no outside tissues are suffering stress, there will be few individual and peculiar symptoms, or none. What, then, should be our practical conclusion? Surely this : given a case of disease clearly reterable to a germ or germs, by all means administer the appropriate vaccine or pathological remedy, or even both, but

cautiously, and not in too big doses at first. Even if the defence mechanism is in good working order a gentle stimulus will do nothing but good; if the mechanism is defective, some help is needed, and it can be continued and increased. But if the patient presents peculiar and individual symptoms, while a dose or two of vaccine will do no harm and may well do good, let us not hesitate to give the remedy indicated by the totality of symptoms, hoping thereby to bring aid to the cells that need it, and are manifesting their need in symptoms.

There remains one other possibility. Of late years we have caught a few glimpses of the normal complex body-mechanism of inter-related secretions-so-called internal secretions-whereby for instance, thyroid acts on pituitary gland, pituitary on adrenal. This secretory mechanism seems to play a part in elaborating defences against bacteria; and defects in this chain may be causes of the failure of vaccine therapy. Now all bodily defects manifest in symptoms, and though we have not always the wit to read their meaning, we can always note them. Perhaps some prescriptions based on symptoms cure in this roundabout way. toms for prescription in such cases would seem in current jargon to be more likely to be "generals" than "particulars." in secretions of general bodily importance at least might be presumed to give rise to general symptoms, and I suspect that this is the explanation of the success, sometimes at least, of prescribing on general symptoms not only in chronic, but in acute or subscute If the general symptoms wree lacking and vaccines refused to take hold, it might be a justifiable experiment to dose the patient continuously with one or other of the organ preparations according to such indications as we could find, and see if the vaccine were more effective thereafter. But obviously there is a good deal to be done in experiment and observation before such a procedure could be finally justified or condemned.

And now, Mr. President and Gentlemen, you have probably had enough of theories. Followers of Hahnemann have generally kept close to practice, and, provided results followed satisfactorily have been content to speculate but little. Therein, no doubt,

they have been wise physicians. It is our primary business to help patients to recover, and in that sphere a practical result outweighs much untried or speculative theory. Nevertheless the mind of man, though uncommonly lazy, very often retains a certain curiosity, and we cannot help asking how and why a result is produced once we have noted the fact of its occurrence. Particularly if we are loth to admit results, we become captious over the absence of theories, and we might find it easier perhaps to make our orthodox brethren listen lif we could build up a secure theoretical structure on the foundation of practical experiment which must always remain the real basis of conviction, and is still and should be, the prime cause of such conversions as we To that end theoretical considerations have a value Weare not yet very far advanced, and it would be madness as yet to do more than eatch at such suggestions as the laboratories—chem cal, physical, and pathological—offer us and supplement them by the closest clinical observation. But though not a great deal to do, this little should certainly be done; and if the little I have said has at all encouraged us to work at the matter with fresh ardor, then I have not tried your patience wholly in vain.—The North American Journal of Homeopathy, February, 1913.

EDITOR'S NOTES. Optic Neuritis following Measles.

The first case of optic neuritis following an attack of measles was published by von Gracfe in 1866. Since then a small number of similar cases have been recorded from time to time. Griscom of Philadelphia has recently seen a case, and in the Annals of Ophthalmology for January, 1912, he gives a full account of it and enters fully into the nature of the complication and the literature which has accumulated during the past forty years. The cases fall into three classes: those showing evidence of primary cerebral involvement with consecutive optic neuritis; those in which meningitis is the most prominent symptom with secondary changes in the nerve head: and, finally, those showing optic neuritis alone whithout any other local or general symptom. In some cases there is marked optic neuritis from the beginning; in others there may be blindness with, at any rate at first, no ophthalmoscopic changes. When the papillit is due to a local meningitis other nerves may be affected as well as: the second pair, the sixth nerve being especially liable to participation in the neuritis. The meningitis may in some cases be secondary to middle-car disease or to inflammation of the nasal accessory sinuses. In the third group, however, none of those complications are present. The optic nerve change is the primary disease, and is present without signs of meningitis. There may be a local inflammation of the meninges in the neighbourhood of the optic nerves, or the condition may be due to a selective action of the toxins of measles. In the absence of any pathological reports a complete examination is at present impossible, because our only data are derived from clinical observations. Although the complication is rare-so far only 23 cases having been recorded—it is well to keep it in mind when faced with failing sight in a child who has just recovered from measles. Naturally a careful examination must be made, for small foci of tuberculous cheroiditis may be detected after an attack of measles.or any other debilitating disease. Some of the cases of optic atrophy after measles make a perfect recovery, in others partial or complete optic atorphy remains behind with partial or complete blindness .-The British Medical Journal, November 23, 1912.

Fatal Nicotine Poisoning.

Ehrnrooth (Finska Laekaresaellskapets Handlingar, July, 1912) reports a fatal case of nicotine poisoning which is, he thinks. the first to be recorded in Finland. This is all the more strange as nicotine is easily extracted both from the green and the dried tobacco leaf. On the advice of a midwife in Helsingfors, the mother of a 6-year-old girl gave her daughter an enema prepared from tobacco in order to expel worms. An infusion was made from 4 to 5 grams of green tobacco leaf in about one litre of water. Half of this was injected. The child soon became very restless, a cold sweat broke out, and death occurred within half an hour of the injection. The necropsy showed that there was no status lymphaticus to account for the sudden death. The bronchial glands were enlarged and caseous, and the kidneys showed signs of slight inflammatory changes. There was extravasation of blood into the mucous membrane lining the pelvis of the kidneys. There were also extravasations of blood into the mucous lining of the stomach, which was grey and swollen. The lining of the intestine, particularly in the lower portion of the small and the upper portion of the large intestine, was swollen and hyperaemic. A yellowish grey mucous fluid was found in the intestine suspended in which were numerous particles which consisted of tobacco leaf. Analysis of the contents of the large intestine showed the presence of nicotine. Given by the rectum nicotine appears to be rapidly absorbed, for death has been known to follow in two to five minutes. How much nicotine was given in the author's case . is not clear, but as the enema did not contain the bulk of the leaves. it is probable that only a fraction of the nicotine they originally contained was absorbed by the child. Nicotine is, however, so toxic, that 0.003 gram is sufficient to cause serious poisoning, while 0.006 gram may be fatal. One cigar alone may contain enough nicotine to cause death, and it is surprising that such a toxic drug figures so rarely in the history of suicide and murder, yet there are some interesting records of the use, both of pure nicotine and of tobacco, for these purposes. The most famous trial in which nicotine played a prominent part was that of Count Bocarme, who was convicted in 1850 of poisoning his brother-in-law, Gustaf Fougnies. The trial is of historic interest, as it was the first in which a medico-legal analysis of a dead body revealed the presence of a vegetable poison. The post-mortem changes in cases of nicotine appear to vary considerably, and while some observers have detected a smell of tobacco on opening the body, others, including the author, have noticed no

such phenomenon. The paths by which nicotine enters the body are numerous, and of these the skin is one of the most common. Smugglers have suffered from severe nicotine poisoning by secreting tobacco under their clothes next to their skin, and the application of wet tobacco compresses to cutaneous eruptious has also ended in disaster. Most curious of all is the case of a convict who had the ingenuity to smuggle tobacco into his cell by secreting it in his rectum, for which device he was punished by serious symptoms of nicotine poisoning.—The British Medical Journal, November 30, 1912.

Dr. Quaglio of Munich.

On August 21 last there died suddenly in Munich, at the age of 84, the nestor of the homocopathic physicians of Bavaria, and the oldest corresponding member of the British Homosopathic Society. Dr. Max Quaglio, after nearly sixty years of professional activity. He was born in 1828 and was a son of the court painter. Domenico Quaglio, an Italian who had settled in Munich at the request of King Ludwing I. Soon after taking his degree Max Quaglio decided upon studying homeopathy and became a pupil of the celebrated homeopathic physician, Professor Joseph Buchner, and worked enthusiastically with the latter until his death in 1858, in the recently founded homeopathic hospital in the Koniginstarsse. Since the foundation of the homosopathic "Spitalverein" in Muninch in 1880 Quaglio had been its president and, in conjunction with Dr. Kock, conducted the new homeopathic hospital which was opened in 1883 in the Paul Heyse St. This he continued to do until 1907 when his great age obliged him at last to relinquish his most cherished work. Dr. Quaglio was an out-and-out conscientious homosopath as well as a most accomplished botanist, and being gifted with a phenomenal memory, he knew and could employ the homeopathic materia medica in the most striking and satisfactory manner. successes were many and striking and brought him well-deserved renown, not only in Munich, but all over Bavaria, and even beyond its borders. At the funeral on August 23, Quaglio's body was followed to the grave not only by his homospathic brethren in Munich, but by a large number of the leading physicians of the old school, including Dr. Seydel, the Surgeon-General of the Bavarian Army. Amongst the wreaths deposited upon the grave was one bearing the name of the Medical Society of Munich (allopathic) and

one sent in the name of the Homosopathic Society and of the homosopathic physicians of Bavaria. "Requiescat in pace."—The British Homosopathic Journal, December, 1912.

Cremation.

The report presented to the annual general meeting of members of the Manchester Crematorium, Limited, on October 15th, stated that during the year ended August 31st there had been 147 cremations. That number, it was stated, showed a gratifying increase on those of previous years, and brought the total since the opening of the crematorium in 1892 to 1,639. The report states that "there is no doubt that opinion in favour of cremation is steadily growing among undertakers.—The British Medical Journal, December 14, 1912.

Refractive Changes In Diabetes.

It is not at all unusual to find changes in the refraction of the eye in cases of diabetes. This generally takes the from of an increase in the refractive power; the patient becomes less hypermetropic or even myopic. The reverse change has, however, been noted by several comepetent observers. A transitory diminution in the refractive power takes place; the patient becomes less myopic or more hypermetropic. These alterations take place independently of the formation of cataract and are compatible with perfectly clear lenses. It is quite common, however, to find an increase in the refraction when actual cataract is developing, and the alteration in refraction may be a prelude to clouding of the lenses. In the Annals of Ophthalmology for January, 1912, Tentmayer of Philadelphia describes a case in which the patient's vision fell to $\frac{6}{600}$, but rose to normal with a lens of +2.5 D. After a short time a lens of +0.75 gave the best acuity. In this case and in others the alteration in the refraction was coincident with a fall in the amount of sugar excreted in the urine. The cause of the phenomenon is almost certainly an alteration in the refractive index of the lens. A marked alteration in the refraction of an adult is always a pathological process, and in such cases the urine should be examined for sugar. When a myope begins to see clearly without his glasses he probably has diabetes. -The British Medical Journal, December 14, 1912.

An ancient surgical operation.

One of the most interesting studies in connexion with the evolution of the surgeon's art is the extraordinary similarity which may be found between the procedures of modern active practitioners and those that were apparently practised by their remote ancestors. for the native practitioner is a remarkably conservative type. The earliest form of splint known, discovered in situ on the body of an Egyptian of the Fourth Dynasty, finds its exact counterpart in that which is at present in everyday use among the barber surgeons of Upper Egypt. Many modern savage and semi-savage people perform surgical operations—and have done from time immemorial that wholly surprise those who, following a rather prevalent mode of thought, regard the major operations of surgery as being of a very recent development. And yet surprise at the boldness of these operations should always be tempered by the reflection that the more primitive the state of society the greater the familiarity with the details of severe wounding and subsequent repair of the human body. Even the mutilations practised by many races for purely sesthetic reasons are operations of no mean magnitude, demanding some degree of skill and boldness from the operator and a deal of fortitude from the patient. One operation, that of trephining, has always proved a tempting theme to the student of the history of surgical procedures. It is an operation practised to-day among semibarbarous peoples; it is one that leaves its imprint on the skeleton and so may be detected in remains of great antiquity, and it is one that, in some places, is so firmly impressed on the popular mind that it seems to tell its history of a once more popular practice. Hudson, of Redruth, and John Fletcher Home have been the historians of trephining in England; from America a mass of new material has come; and on the Continent Dr. Lucas-Championniere has studied the question in all its aspects. His latest publication on the subject brings our knowledge of the history of trephining up to date, and adds a fund of interesting details culled by the author from his vast experience. Among the Kabyles Dr. Lucas-Championniere learned the lore from a recognised practitioner in whose family trephining was considered so much a matter of course that the man's father had submitted 12 times to the operation, and the son himself exhibted four palpable lesions in his own skull. Other peoples among whom the operation is almost equally customary are instanced, and especial reference is made to the practices of the Cornish miners described by Hudson. Among the preserved evidences of the antiquity of this operation the author describes and illustrates instances of Neolithic skulls and heads of Pervuvian "mummies" said to have There appears to be no doubt that some of these been trephined. instances are true and brave examples of deliberate surgical attempts at opening the cranial cavity for curative purposes; but great caution is necessary in the examination of any case in which an ancient skull presents those appearances which are suggestive of trephining. results of depressed fractures, and more or less circular patches of ulceration from pressure or from scalp sores produce apperances strikingly like those of a trephine wound. Slices cut from the curved surface of the skull by the passage of an instrument such as a sword also cause wounds easy to mistake for the circular outline familiar in examples of deliberate cranial surgery. Then, again, it must be remembered that, in the case of wounds of Neolithic age, the very weapons in common use were such as inflicted extremely deceptive injuries, the stone mace-head being an admirable instrument for removing a circular piece of bone from the skull. cautions are necessary, for the temptation to discover the traces of ancient surgical procedures has at times led to a too ready acceptance of altogether insufficient evidence. Many imagine that it is common to meet with the wounds of the trephine in the skulls of ancient Egyptains, and yet no ancient Egyptain skulls show wounds for which some much more commonplace explanation is not readily found. That the operation is by no means employed only in cases of definite fracture, or even of injury, is made abundantly clear by Dr. Lucas-Championniere, and it is quite possible that many different conditions have been subjected to the earliest of all man's efforts to treat the human brain.—The Lancet, November 2, 1912.

The Commission on Depopulation.

For many years the population statistics of France have shown unsatisfactory conditions. The death-rate, it is true, in consequence of hygienic and prophylactic measures, has been somewhat diminished but the pirth-rate has also diminished to a degree so disquieting as to arouse the Government to action. The Minister of Finance has appointed an Extra-Parliamentary Commission to study the national fiscal, and sociological aspects of depopulation and to suggest a remedy. This Commission consists of several hundred members, but does not contain one woman. It is to be feared that its results will not to be commensurate with the number of its members, for to attain any

serious results the hygiene of the dwelling, and especially the struggle against alcoholism, itself one of the most powerful factors in depopulation, must be taken into account. This would necessitate the reestablishment of the law relating to drinking shops, which was suppressed by the present authorities. But the Chamber of Deputies will never dare to decree the re-establishment of this law, because of the electoral influence possessed by the wine trade. There are many medical men on this Commission, including the doyen of the faculty and the directors of several of the services desanté, who are ex officio members.—The Lancet, November 23, 1912.

Cremation in Glasgow.

At the annual meeting of the Scottish Burial Refrom and Cremation Society, Limited, held at Glasgow on November 26th, it was reported that during the year ended September 30th 44 cremations had been carried out as compared with, 35 in the previous year, and 26 in 1909-10, making a total since the opening of the crematorium of 420. The following passage is interesting: "The directors note with particular satisfaction the beginnings of what they are convinced marks a great forward step in the adoption of cremation. A special crypt for the reception of urns his just been erected in St. Columba's the leading Presbyterian church in London, and previous cremation is being insisted upon in many cases of interments in Westminster Abbey and St. Paul's Cathedral. . . The cremated ashes of the late Bishop of Truro have been deposited in Truro Cathedral.—The British Medical Journal, December 14, 1912.

The Miliary plaques found in senile brains.

Among various interesting communications in the excellent Transactions of the American Medico-Psychological Association for last year is a paper by Dr. Solomon C. Fuller, of the pathological laboratory, Westborough State Hospital, Massachusetts, on a study of the miliary plaques found in the brains of the aged. It forms a weighty contribution to the elucidation of a topic which has occupied pathologists and alienists during the last few years, and has on more than one occasion given rise to somewhat acrimonious polemics. Briefly, it may be recalled that plaques of so-called miliary sclerosis have been recognised for 12 or 15 years, or more, as occurring with considerable frequency in the brains of patients suffering from senile

dementia, while more recently attempts have been made to demenstrate that such plaques only occur in certain cases of senile dementia -viz, those described as constituting a class by themselves and It has been known as Alzheimer's disease, or presbyophrenia. maintained, indeed, that these plaques are the pathological substratum and pathognomonic of that variety of involutional dementia. this were really the case, presbyophrenia might come into the toxi-infective group, especially as some have thought the plaques to be of bacterial origin, and would possess a histopathology as definite as that of general paralysis. Dr. Fuller's contribution to the subject may be recommended to the notice of all whom the settling of this vexed question may concern. Histologically, miliary plaques are discrete structures of variable size in which a dark, circular homogeneous nucleus-like mass is centrally disposed. Round it is a larger and lighter area, which is, however, still darker than the adjacent brain tissue. In this outer portion are glial and nerve fibrils and also granules and globules of not definitely determined nature. The central homogeneous mass is often radially pointed, like an official seal. The whole plaque has been likened by Achucarro and others to the ray fungus of actinomycosis. Dr. Fuller's paper is based on the study of some 93 cases; his material, therefore, is adequate for the determination of difinite conclusions. He finds that 87.5 per cent. of plaque cases also show convolutional strophy, but, other cases with equally marked strophy may be without plaques. All plaque brains show more or less cerebral arterio-sclerosis; on the other hand, cerebral arteriosclerosis may be even more marked in non-plaque brains. can have, therefore, little if any direct causal association with plaque Cases of senile involutional dementia are the most likely to have plaques, but they have certainly been found in the brains of individuals without any psychosia at all, and again, therefore cannot be considered as characteristic of any special form of mental disease. As a rule, they are more numerous in those portions of the brain which show the maximum of general pathological alterations. Thus, in senile dementia they occur with the greatest frequency in the frontal and hippocampal regions They are found in the molecular layer of the cortex and in the white substance, as in the more important layers of the cortex, which is their site of predilection, and therefore cannot be regarded as originating solely in the degeneration of ganglion cells. Probably they are formed by the deposition of the products of pathological metabolism resulting from degenerating nerve elements. Attempts at elimination and replacement, as evidenced by undoubted neural and glial proliferation in their neighbourhood, do not appear to be successful. Dr. Fuller concludes that there is considerable similarity between the lesions of senile dementia and those of normal senile involution of the brain, and believes, on histological grounds, that the former are only an intensification of the alterations found in the latter.—The Lancet, December 14, 1912.

The Therapeutic Action of Digitalis.

About the action of digitalis almost more than of any other valuable drug there has prevailed a tantalising uncertainty until recently. It is difficult to believe that during last century it was recommended in the treatment of aneurysm; yet so it was, on the ground that it enfeebled the circulation. One of the happiest features of the new cardiology, which owes so much to British physicians, is its gradual separation of fact from fiction in regard to the therapeutic uses of digitalis and its congeners. Systematic and prolonged observation of the effect of these drugs on patients suffering from cardiac disease, along the lines laid down by Dr. James Mackenzie, has already established certain fundamental data on which a rational plan of treatment will eventually be built. Some extremely interesting observations of this kind are reported in the current number of Heart (vol. IV., Part 1., p. 33), the deductions from which will carry great weight, since they are those of Professor A. R. Cushny in collaboration with Mr. H. F. Marris and Dr. M. D. Silberberg. The patients in whose cases these observations were carried out were in Dr. Mackenzie's wards at the Mount Vernon Hospital. It was found that the cardiac action of strophanthus and squill was practically identical with that of digitalis, and that the gastro-intestinal disturbances provoked in some cases by the latter could not be avoided by substituting for it another member of the group. The action of the drug proved to be twofold: on the one hand, it exercised a direct effect on the cardiac muscle, while it also heightened the vagus inhibition of the heart. By the use of atropine it was found possible to cut out this second effect and thus to study the direct cardiac action separately. The cases investigated were divisible into two groups—those in which the auricle was in fibrillation, and those in which it was acting normally. As is now well recognised, the therapeutic effect of digitalis in the former type is

so striking as to be practically specific; the rapid, irregular pulse is greatly slowed and the symptoms display a remarkable improvement, due to the fact that the slowed heart gains more diastolic rest. clinical investigations here recorded, together with experiments carried out in the Pharmacological Laboratory at University College. seem to throw light on a matter hitherto obscure-namely, the method by which digitalis slows the heart in auricular fibrillation. As has been said, it was shown that this was not due to the vagoinhibitory effect of the drug, since the injection of atropine did not interfere in any way with the action of digitalis or strophanthin in retarding the quick, irregular pulse of fibrillation. question to be answered was whether the theory is correct which ascribes this retardation to the depression of conductivity that digitalis is known to exert; whether it is due to a cutting off at the bundle of His of some of the stimuli which pass over in rapid, irregular series from the fibrillating auricle to the ventricle. researches of Professor Cushny and his colleagues, though giving no final answer to this question, go to show that depression of conductivity by digitalis is a vagus effect, and that as the beneficial action of the drug in auricular fibrillation is due to a direct effect on cardiac muscle, it cannot be wholly ascribed to the cutting off of impulses in the auriculo-ventricular bundle. They think it possible that digitalis reduces the excitability of the ventricular musculature to some extent, and thereby renders it less responsive to the stream of irregular stimuli showered down upon it from the fibrillating auricle; but in either case, whether the benefit which patients with auricular fibrillation derive from digitalis be due to depression of conductivity or to lowering of excitability, they think it probable that the drug produces those effects indirectly by improving the nutrition of the myocardium through an augmentation of its contractile power. Lancet, December 14, 1912.

Mercury in the Hair.

It is possible by a refinement of analysis to detect mercury in the hair of persons who have undergone mercurial treatment. It is said that the process is capable of detecting 1 part of mercury in .96,000,000 parts of hair, while only from 2 to 10 grammes of the hair are necessary for the purpose. After removal of greasy substances by washing with ether, alcohol, and water, the hair is digested hydrochloric acid, potassium permanganate being added to destroy

Complete solution takes place eventually, and organic matters. the fluid which contains mercuric chloride, if mercury is present in the hair, is filtered. Sulphuretted hydrogen is then passed through the clear solution and the precipitated mercuric sulphate collected. The sulphide is then treated with hydrochloric acid and potassium chlorate and the solution filtered and evaporated to a small bulk. A strip of copper foil is then placed in the solution, which is gently boiled. Mercury, if present, is deposited upon the copper foil is dried and placed in a tube, one end of which terminates in a capillary form. The tube is exhausted of air and sealed. part in which the copper slip is situated is then heated over a flame, which will cause the mercury to volatilise and condense in the capillary portion of the tube. Microscopical examination will then show any globules of mercury which have been expelled from the copper foil. When these are treated with a little iodine on a glass slide and examined under the microscope the formation of red iodide of mercury may readily be observed. The hair would appear to have a curious selective action for poisonous metals, for, as is well known, arsenic was found in the hair of persons who had consumed beer contaminated with small quantities of arsenic. -The Lancet, December 21, 1912.

The Madness of Kings.

The recent death of the aged Regent of Bavaria, and with it the reopening of the whole painful story of this ill-fated house, raises questions of peculiar interest in connexion with the psychiatry of It would appear at first sight that, if the moral royal personages. and intellectual qualities of a sovereign can add to the enrichment and glory of a nation, the contrary should also hold good. remarkable to note, however how little dependent the evolution of a nation really is upon the mental or physical health of its monarch. Moreover, the history of the House of Bavaria shows that a madman clothed in purple can on occasion be an excellent head of the State. The outstanding cases of insanity in reigning monarchs are not numerous. Perhaps one of the earliest to which historical reference is made, is that of Nebuchadnezzar, King of Babylon, who suffered from lycanthropy, a from of insanity as well as in the Middle Ages. Beyond being afflicted with jealousy amounting almost to mono. mania, there is no indication that Saul, King of Israel, was insane. More recently Peter III of Russia, grandson of two great kingsPeter I on the maternal side, and Charles XII of Sweden was a degenerate in the full meaning of the term. Paul I of Russis, his son, was sickly, weak, and epileptic from birth. He it was who proposed that the sovereigns of Europe should settle their differences by mortal combat! Although he imperilled the country by his extravagance and eccentric habits, the pathological history of Paul is interesting in that he was incontestably the superior of his father from a psychological point of view. His death by strangling was defended as a matter of necessity for the welfare of his country. The subject is one of great interest for the physician and the philosopher, and we do not know that students of psychiatry have hitherto given it the attention it deserves.—The British Medical Journal, January 4, 1913.

Tales of Hippocrates.

During a recent visit to the island of Kos, Professor Meyer-Steineg collected several tales of Hippocrates from the lips of a native guide, Jakobus Zaraftis. Although the name of Hippocrates figures extensively in titles of wells and different localities, even the better educated classes in the island seem to possess only a hazy knowledge of the most illustrious citizen. In the legends concerning the great physician he has been confused with, and included among, the numerous saints of the Greek Church. But though he has thus acquired a spurious halo, his miracles are largely concerned with the arts of healing and diagnosis, and in this respect tradition has preserved his dominant claims to fame. The following tales contain some quaint conceits.

A consumptive, whose appeal to Hippocrates for aid was refused, retired in despair from the town to the mountains, where he intended to die. Here he saw a snake vomiting milk after it had swallowed a cow. Thinking that this milk must be poisonous, the consumptive drank it to hasten his end. He then retired to the shade of a tree where he slept for several hours, after which he awoke, hungry and refreshed. He rapidly recovered. On his way home he met Hippocrates, and told the physician how despair had driven him to the mountains, where he had regained his health; but, before he came to the incident of the spake, the physician exclaimed, "How could I provide you with milk vomited by a snake?" Delighted by this display of wisdom, the consumptive seized Hippocrates by the hand, and halled him as the world's greatest physician. The refusal of

Hippocrates to treat the consumptive tallies with the frequently repeated injunction in the *Corpus Hippocraticum* to abstain from treating the incurable. The snake's contribution to the miraculous recovery is interesting as illustrating the not uncommon part played by this reptile as a healing power both in heathen mythology and in the Old Testament.

One day Hippocrates met a shepherdess on the road, and greeted her with the salutation: "May it be well with thee, maiden, maiden!" When he met her again on her way back, he greeted her thus: "May it be well with thee, woman!" Struck by the repeated blushes of the girl, a companion of Hippocrates asked him why within the same day he had first called the girl maiden and then woman. Hippocrates replied: "Because earlier in the day she was a maiden, and now she is a woman." His curiesity aroused, the companion addressed himself to the girl, who, weeping, admitted that she had in truth been merely a maiden in the morning, but that she had been assaulted and seduced by the shepherd's son on her return from the flock. When questioned as to how he had detected that the girl had been violently seduced, Hippocrates replied: "The gait of a maiden differs from that of a woman." Here, again, Hippocrates appears as an acute observer, not as a healer.

A girl who had been bitten by a snake and who was hastening to obtain medical aid, met a man to whom she applied for guidance to one who would give her an antidote. The man, whose identity with Hippocrates was unknown to the girl, replied, "Before seeking the aid of a physician, seek that of God by making offerings unto Aesculapius and Hygieia." He then lighted a piece of sponge which he applied, still blazing, to the wound. The flesh seethed under this treatment, but Hippocrates endowed the patient with courage and superhuman powers to endure the pain. He also comforted her by assuring her that the offerings were accepted, and that she would be healed of her wound by the servant of God. He then retired to a cleft in a mountain where he found a tortoise which he killed; he caused the patient to drink its blood, and applied its flesh to the The patient was then directed to return home, and to repeat the treatment with tortoise blood and flesh twice, after which " she would be healed. In this story Hippocrates is incognito, and he combines mysterious rites with the doubtless equally efficacious procedure of cauterization.

A king's daughter, whose illness was incurable, was affianced to a young man who had spent the whole of one night in a chapel in

prayer for the invalid. As he was returning in the morning from this place he met a white-bearded old man carrying a rod, on the top of which was a living snake's head. In its mouth was a sweetsmelling clove flower. After exchanging greetings the old man said: "You have prayed to God for the recovery of your beloved. It is right that you do penance, for your erotic songs have brought her to this pass. But God has taken pity on you, and has sent me to tell you that she will recover." The lover would have kissed the old man's hands and feet, but dared not for fear of the snake. Perceiving this the old man said: "I know how thankful you are for what I have said, but I am sent from God. I am the physiciau Hippocrates. and in the mouth of my snake there is a flower. This is the remedy for the illness, which is jaundice. Take the whole root of this flower. crush it, and squeeze the juice out of it. Give it her so that she breathes it in by the nostrils, and you will see all the poisons streaming out of them, her colour will again bloom, and all her former strength and beauty will return." Saying this, the old man became invisible. The lover did as he was told, and his prayers were granted. There seems to be considerable confusion in this story. for the reference to a chapel places the incident with those of Ceristian tradition, while the snake perched on the rod is plainly borrowed from tales of Aesculapius. It is interesting to note that the influence of the emotions on the Bible was recognized at such an early date,

The following tale closely resembles those told by Grimm and Hans Andersen: A king's daughter had suffered for many years "from snakes," which dwelt within her and devoured her. The king, her father, sent heralds throughout his kingdom to proclaim that he who could heal his daughter should receive many and royal gifts. Numerous physicians practised their arts in vain. A young man, hearing of the prizes to be won, prayed God to show him how to gain them and heal the patient. His prayer was heard, for he met an old man, who told him that "God hears everybody, but everybody hears not God. He has heard you, and has sent me, the physician Hippocrates, to show you the remedy for the patient. Find juicy portulaca, and from its seed press a cupful of oil. Give this to the patient on an empty stomach, and, if she continues to fast till midday, you will see the snakes leave her both from above and from below, and she will recever." The young man seized the old man by the hand, and exclaimed, "I thank God Who has sent thee. O god-like Hippocrates." The old man immediately became invisible, the youth cured the patient, received the promised gifts, and gained there by the lady of his love. Probably the "snakes" of this tale not are unfamiliar objects with the modern representative of the healing arts.—The British Medical Journal, January 4, 1913.

The City of Madras and its Immunity from Epidemic Plague.

The question has often been asked why during the past 17 years. when plague has been visting nearly the whole of India, and ravaging in a disastrons manner many thickly populated communities, the disease has never succeeded in gaining a foot-hold in the city of Madras with its population of over half a million. Notwithstanding repeated importations of the infection there has been no outbreak. with the exception of a comparatively slight epidemic in 1905-06. limited to the fishing population living on the extreme outskirts of the municipal boundary and therefore hardly to be regarded as being within the city itself. Madras is the third city in India in point of population, and as a seaport ranks fifth in importance. having a large trade by shipping with eastern ports, and particularly with Rangoon, where plague is often epidemic, and from which large quantities of rice or other grain are brought, such cargoes attracting rats on board ship at the place of loading. On the land, ward side Madras is in close communication by rail with other parts of India in which plague is now annually epidemic, including Mysore. and especially the town of Bangalore in that State, where the disease has of late years been very prevalent. But in spite of these and other opportunities for contracting the infection Madras has, with the slight exception mentioned above, remained free from epidemic plague during the past 17 years, and only sporadic cases, spread over that period and resulting in a total of 125 deaths, have been recorded in the city. Yet Bombay and Calcutta have suffered severely year after year, the former, with a population of 979,445. having had no fewer than 178, 440 plague deaths, and the latter, with 1,222,313 inhabitants, having had over 61,000 in the period in question. With the purpose of discovering, if possible, the reasons for this apparent immunity of the city of Madras from plague epidemics, the Advisory Committee, appointed jointly by the Secretary of State for India, the Royal Society, and the Lister Institute, some little time ago ordered an inquiry to be made by its expert officers into the matter, and the results of this have recently

been published in the "Seventh Report on Plague Investigations in India." This report states that the conditions of house construction in the city of Madras are not unfavourable to the establishment of epidemic plague, and that suitable climatic conditions for this prevail during the winter months. Though neither rats nor rat-fleas are so plentiful as in other places which have been examined by the committee's experts, still there are probably enough of both to maintain plague if it were introduced. Moreover, the local rats (Mus rattus) have been shown by experiment to be exceptionally susceptible to plague infection. It therefore appears that the city is not immune to the disease in the sense that the prevailing conditions are such that plague could not become established in it. Experience has demonstrated that a plague epidemic is more likely to be started if the infection reaches the place at the time when meteorological conditions are favourable and when rat-fleas are most numerous. In Madras these conditions are most suitable from December to February-that is, at the time when the plague season is established in such towns as Bangalore, from which the disease could easily be brought. It is probable that Madras has escaped the revages of plague because infection has not been able to reach it at the most appropriate time, or because the infection has encountered some obstacle upon its arrival. The infection of plague is known to travel long distances by means of fleas carried upon the bodies of persons or animals, or wrapped up in bales or bundles of clothing and the like. Meteorological conditions largely affect the duration of the life of the flea apart from its host, a cool atmosphere permitting the insect to live ten times as long as in a hot, dry air. Madras, on the whole, is a hot place, but in the cooler months the temperature would seemingly allow fleas to live for a considerable time, though there is no definitely cold weather to give really favourable conditions for flea importation. How far local efforts and preventive measures, especially the passport system and the associated sanitary administration. have had a share in bringing about the city's immunity from epidemic plague it is not easy at present to say. Probably the passport system in vogue in Madras acts to some extent in deterring sick persons from travelling to the city, and in this way helps in checking the spread of the disease. In view of these results the committee proposes to extend its inquiry so as to include other parts of the Madras Presidency in which the same apparent immunity from epidemic plague has been observed, and as to which we have on saveral occasions directed attention in the columns of THE LANCET.

April 1913.]

Further discussion of the questions outlined above has very properly been reserved by the Advisory Committee until the whole problem of plague in the Presidency has been adequately studied in detail by its expert officers.—The Lancet, March 22, 1913.

The Easter Egg in Modern Terms.

The injunction in mediæval times that after a period of partial abstention from food during the Lenten season the egg should form a prominent article of diet on Easter Day proves to be a peculiarly sensible one in the light of modern knowledge in regard to its composition. It is not so very long ago that lecithin, the interesting phosphatised oily substance contained in the yelk, was found to have a decidedly favourable effect upon nutrition. Some authorities have gone so far as to assert that the nerve centres depend upon lecithin for the highest performance of their functions, and that nerve and brain exhaustion is caused by an undue expenditure of lecithin. Lecithin has thus been employed in nervous breakdown of vorious forms. and the experience is recorded that after a short course of treatment by lecithining the sufferers put on flesh and experience a feeling of well-being. If this is the case, an egg dietery is obviously peculiarly suitable after a regime of fasting, when it is remembered that the most fruitful source of lecithin is the ordinary egg. The mode-amino phosphatide (to give its chemical description accurately) is present in the yelk of an egg to the extent of a little over 7 per cent. Taking an average egg to weigh about 50 grammes, of which the yelk is 30 per cent. or 15 grammes one egg is capable of yieding I 08 gramme of lecithin, or about 16 grains. In the treatment of nervous disorders the dose of lecithin is from 3 to 5 grains three times daily half an hour before meals, so that the daily maximum intake of prepared lecithin would be 15 grains, which is just a grain short of the lecithin found in a single egg. If lecithin is a real need of the body, the supply, it is obvious, can easily be kept up by the simple custom of taking an average-sized egg at the matutinal meal. The eating of an egg, however, would probably not convey to a public, singularly credulous about drugs, the same assurance as would the taking of a few grains of a special preparation. The truth is that food often contains active therapeutic principles which when isolated count as drugs. Lecithin is certainly not a food, but there can be little doubt that its presence in some foods possesses a singular influence on the growing organism. It is present in a good many food substances, but the egg is richest in this curious material. The reverence for an egg in religious history was no doubt based on its life potentialities. Easter egg was a dietetic recommendation from probably similar reasoning, and it is interesting to note that, apart from its unquestionably high nutritive properties, the egg contains a substance which modern investigation has indicated is peculiarly adapted for cases of malnutrition.—The Lancet, March 22, 1913.

CLINICAL RECORD.

AN UNUSUALLY PROTRACTED CASE OF TYPHOID-FEVER.

BY C. W. Scott, M. D., Andover, Mass.

The following case of typhoid fever seemed to the writer to be of sufficient interest to warrant reporting, in the hope of its being of assistance to some brother practitioner and of material benefit to his patient.

Mr. C. W. C., aged 41 married, two children, shoemaker by trade. He had been feeling tired and irritable from the first of May, and for a week prior to the 17th, on which day he took his bed, had a severe diarrhœa which was attributed to clams he had eaten. On the 16th had chills and fever.

He rapidly developed the usual and complete typhoid conditions, the baked tongue, sorder, profuse diarrhea, 25 dejections in a day; rose spots covering the whole body, and copious hemorrhages; stomach fairly good. Temperature ran from 100 to 103.6 degrees.

He received the usual treatment, and on June 10th his temperature reached normal and continued so for eleven days, when it again developed and ran for three weeks, reaching 104 degrees; no diarrhea, stomach fairly good. Convalescence from this attack rather slow, patient complaining somewhat of pain and weakness in back and hips. He gradually got out and around, gaining slowly.

From about July 8th to the 23rd, when I left on my vacation, I saw him occasionally. He complained of his back and hips. During August he did a little work, picked berries, etc., but gradually grew worse and took his bed again September 9th, with a temperature of 103 degrees. For a month his temperature ran from 99 to 103 degrees.

By this time the pain had become very severe and he could not move without bringing on an attack of most excruciating pain, besides the one or two he was bound to have anyhow, lasting an hour or more, so severe that his cries could be heard in the street.

Nothing I could give afforded relief, and I was forced to resort to hypodermics of morphia, sometimes 1-2 grain.

During this attack his bowels were very constipated. For eight days he took only grape juice and elderberry wine. October 7th called Dr. J. P. Sutherland in consultation, who after a very careful

examination was inclined to give an unfavourable prognosis but strongly advised among other things the use of typhoid vaccine. Blood for examination was sent to Dr. Watters, who reported a positive Widal reaction and kindly sent the vaccine. October 8th, 6 P. M., temperature 103 degrees, gave first dose of vaccine. Quite a decided reaction.

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             temp.
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Oct. 11th
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Oct. 13th
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No more fever and no pain after 24 hours from the first dose of vaccine unless caused by moving and even that disappeared after a few days. Recovery has been slow and tedious but steady and, considering what he has passed through, satisfactory.

While this is only one case, it shows very positive results of the vaccine treatment, especially the relief from pain and the general change for the better in his whole condition, and I believe saved his life. He was undoubtedly a "carrier," and carried the bacilli from one attack to another.—The New England Medical Gazette, March, 1913.

Gleaninge from Contemporary Literature.

DUODENAL ULCER.

By T. MILLER NEATHY, M.A., M.D. Cantab., M.A. Lond.

Assistant Physician to the London Homeopathic Hospital.

(Continued from p. 135, March, 1913.)

. RECORDS OF CASES. - I have searched the records of this hospital for cases of duodenal ulcer occurring during the past ten years. In the index of cases which ends with the year 1908 duodenal ulcer is not separately Two cases there were between 1902 and 1908 in which duodenal ulcer was discovered at operation, but they are classified under gastric ulcer. In one case, placed in the same category, a marginal note savs "? duodenal." In the current index which starts with 1909 duodenal ulcer has a place to itself, and a dozen cases; more or less probable, are * ranged under that heading. By searching the notes, however, of the years 1902-1908 I have been able to extract from such various categories as gastric ulcer, gastralgia, hæmatemesis, pyloric stricture and dyspepsia. four or five cases of probable (some of them certain) duodenal ulcer. Thus it would appear that, though we have not had many cases altogether. they have been more numerous lately. This accords with Dr. Hale White's belief that duodenal ulcer is a commoner disease how than formerly. Altogether I have collected about twenty cases of more or less probable duodenal ulcer, from the years 1902 to 1912. I shall also bring to your notice a few other cases, probably (some of them certainly) not duodenal ulcer, but possessing special features of diagnostic interest.

F. F., aged 48, male, under Mr. Wright in March and April, 1903, was sent in with a diagnosis (only partial) of pyloric obstruction. There was a history of chronic indigestion for twenty-eight years, getting much worse in the last few months and now marked by constant nausea and flatulence and occasional vomiting of large quantities of sour brown stuff, appetitie good, bowels constipated, no pain now, losing flesh. On examination, stomach much distended, splashing present. At the operation (posterior gastro-jejunostomy) multiple ulcers were present in the doudenum. This was evidently a very old-standing case in which the duodenal ulcer had cicatrized (hence the absence of pain when he was seen), thus producing a stenosis with the ordinary signs and symptoms of pyloric obstruction and gastric dilatation.

N. H., aged 58, male, was in the hospital in December, 1904, and January, 1905. The diagnosis was gastrodynia. Three years previously he began to have pain in the right hypochondrium and across the lower part of the abdomen, a full hour after food, a pain always relieved by hot drinks, accompanied by much flatulence, but very infrequent vomiting.

The pain came on in periodic attacks, which seemed often to be precipitated by some emotional shock. Bowels recently constipated. Very few teeth. Tenderness in right hypochondrium, and a strongly marked right epigastric reflex. This is not a trear or typical case of duodenal ulcer, but the tenderness in the right hypochondrium and the strongly marked right epigastric reflex (a point mentioned by Moynihan) are very suggestive, as are also the patient's age and sex.

G. F. J., aged 56, male was in the hospital in February, 1905. The provisional diagnosis was gastric ulcer, but the patient was indexed under dyspepsia. Had long suffered from indigestion. Pain after food (time not mentioned) relieved by food. No vomiting. Marked periodicityau attack every two years. About three years previously found that food did not pass his stomach and himself elicited splashing. Would induce vomiting for the sake of relief. This obstruction was evidently due to spasm and not to organic stricture, as it passed off after two months and he had a long respite. About a year before admission another similar attack, which also lasted two to three months and then passed off. Bowels costive during attacks, otherwise regular. On admission, emaciation, splashing of stomach, and a good deal of pain in epigastrium. Washing out the stomach brought away a quantity of "coffee grounds." There had not been a history of hæmorrhage. While in hospital, patient had pain in the right side of the epigastrium, relieved by food, usually coming on at night. He got it, as he said," when the stomach was empty." A test meal showed 0.3 per cent. of free HCl, which is decidedly high. He improved very much under nux v. and kali bich, and went home at his own request. The chief points here, apart from age and sex, are the very marked periodicity of the attacks, the hunger-pain, and nocturnal pain in the right side, with evidence of homorrhage on one occasion.

A. S., aged 28, male, was in the hospital in August and September, 1907. The diagnosis was gastralgia. Acute pain above and to the left of the umbilicus was first felt five years previously, coming on three hours after food, with flatulence, relieved by heat, by belching and by ingestion of food. Bowels constipated. Has several times vomited half-digested food. The attacks have recurred periodically. Tenderness on the left side under the costal margin. Patient improved considerably under nux v., carb. v., and arg. nit. The local tenderness points to ulcar, and the hunger-pain and marked periodicity to duodenal ulcer, but the fact of pain and tenderness being on the left side leaves it open to doubt whether the case was not one of gastric ulcer. In anomalous cases duodenal pain may be on the left side, just as pain due to ulcer near the cardiac end of the stomach has occasionally been noted to be on the right side.

W. B., aged 41, male was under Mr. Knox Shaw in October and November, 1907. Twelve years previously, after returning from America, patient had severe "gastralgia" without vomiting. Two and a half years before admission he had vomited blood, and Sir William Broadbeut was

reported to have said that he had an unhealed gastric ulcer. He was relieved under treatment, but always relapsed. He was sent up to the hospital by a provincial doctor, who said he found chronic irritative dyspepsia, red tongue, induration and nodular swelling over the pylorus, tenderness on deep palpation, absence of vomiting and of all distinct evidence of obstruction, burning pain and relief by ars. alb., ac. carbol., bry., nux v., arg. nit., and carb. v. This picture is suggestive of duodenabulcer with inflammatory thickening round the ulcer. When supplemented by the patient's own statement that the pain, which was just above the navel, bore no relation to food and was in fact relieved by food, and that he had passed very black stools, the evidence was complete. On examination, there was a visible swelling in the right rectus muscle, $1\frac{1}{2}$ in above the umbilicus. At the operation a hard cicatrized ulcer was found in the first part of the duodenum. A posterior gastro-jejunostomy was done.

- C. H. M., aged 49, male, was in the hospital in May, 1909. The diagnosis was incomplete—pyloric obstruction. There had, for twelve years past, been pain three hours after meals, immediately relieved by fod.o Appetite always very good. Heart-burn. Latterly, symptoms of obstruction. Patient was discharged as unsuitable for some reason. The obstruction was evidently a stricture due to cicatrization of an ulcer, which, as indicated by the age and sex, the hunger-pain, and the consistently hearty appetite, was no doubt duodenal.
- J. C. aged 51, male, was in the hospital in September, 1909. About two and a half years previously patient began to have pain in the "stomach" two hours after meals, relieved by food, also between the shoulders. Pain was of a doubling up character. (This kind of pain, not very rare in duodenal ulcer, is probably due to spasm of the pylorus.) Recently he had had very severe and profuse hæmatemesis and also melæna. In the history the hæmatemesis so dominates the picture as to suggest, in spite of the hunger pain and the fact that he was a man of 51, that the ulcer was in the stomach. At the same time melæna is much more likely to escape a patient's notice than hæmatemesis. Still, I admit a doubt of the diagnosis.
- A. T., aged 40, female, a cook, was in the hospital from October, 1906, to January, 1910, and was labelled chronic gastritis. For five years patient had been troubled with indigestion; she was operated on at the West London Hospital and found to have an ulcer with hard edges in the second part of the duodenum. A posterior gastro-jejunostomy was done, and she was supposed to have made an "uninterrupted recovery." Patient said she had never been so well since the operation, and the abdominal pain in particular was worse. An interesting point was that the pain was always worse in cold weather, and that any change in the atmosphere was liable to bring on the sickness. Cold spells of weather as an etiological factor in duodenal ulcer have been specially remarked by Moynihan. There had been no hematemesis since the operation. The operation certainly had not been a success, though performed by a

well-known surgeon. Prolonged treatment in our own hospital was not more successful. There was, I think, a strong neurotic element in the case.

M. W., aged 40, female, was in the hospital in October and November, 1909. Patient had not had much vomiting, but flatulence and a burning gnawing pain in the pit of the stomach and under the right scapula, coming on two hours after meals and instantly relieved by food. Tenderness on the right side, above the level of the umbilicus. Evidence of stricture, large amount of free HCl. This is a fairly clear case of duodenal ulcer.

H. B., aged 26, male, was in the hospital in October, 1909. Was sent in as a case of gall-stone colic, but was labelled smoker's gastrodynia. Trouble began four months previously with sickness and vomiting two hours after food, with severe pain just above and to the right of the umbilicus. Tenderness on deep pressure in the same spot. Patient had noticed his motions at times to be very dark-coloured. On one occasion while in hospital there was blood with the vomit. His appetite was always excellent. He smoked 3 oz. of tobacco a week. So far the case is suggestive of duodenal ulcer. But the pain was not relieved by food. Although the pain was mostly noticed above the umbilical level, it was sometimes in the appendix region and some tenderness was felt there on palpation. It is possible that duodenal ulcer was accompanied by chronic appendicitis, as it sometimes is. Moynihan makes it a practice when operating for duodenal ulcer to examine the appendix at the same time. It may be that excessive smoking induced, or helped to induce, hyperchlorhydria and that this developed into duodenal ulcer. This patient was greatly improved by hospital regime and ars. alb.

W. J. W., aged 52, male, was sent into the hospital in December, 1910, as a possible case of duodenal ulcer. "Gastric" trouble off and on for two years, pain one to one and a half hours after food, coming sooner after fluids sometimes bending him double (suggesting pyloric spasm), and relieved by eating, also by vomiting, which, however, is only occasional. On one occasion vomited a small quantity of blood. Craves food hot, bowels costive. Tenderness in region of pylorus on deep pressure, and slight rigidity over right rectus. Sensitive to cold. Has had business worries. The pain was rather soon after food for duodenal ulcer, but the other symptoms fit the diagnosis well. A man of 52 with periodic attacks of hunger-pain, accompanied by tenderness and slight rigidity in the region of the duodenum, who is sensitive to cold and has a slight hemorrhagic history, is probably suffering from duodenal ulcer. But an ulcer just the other side of the pylorus is perhaps not excluded. The craving for that food is seen in a good many of these patients.

E. T. M., aged 61, male, died in the hospital in March, 1911. This patient was admitted in a very bad state with marked uranic symptoms. During the week that he lived he passed involuntary tarry stools on many occasions. The duodenal symptoms were masked by the renal, and it is

possible that the ulcer, which was of the size of half a crown and was found in the region of the papilla of Vater, was ursemic in origin and secondary to the chronic nephritis.

- W. M., aged 51, male, was sent in in November, 1911, with a diagnosis of pyloric stenosis. Three years ago, as the result of a heavy box falling on his chest and epigastrium—an accident which kept him in bed for a week—he developed pain over the anterior parts of the eighth, ninth, and tenth right ribs, and also in the middle of the back, together with nausea and progressive loss of weight. Never vomited, but for a year has passed blood by the bowel. Appetite not good; epigastric pains somewhat relieved by food; bowels regular; HCl in large amount in stomach contents after test meal. While in hospital pain was located at the tip of the ninth rib, going through to the back; rectal hæmorrhage also observed. This history certainly points to duodenal ulcer of traumatic origin. No stenosis was found at the operation. A gastro-jejunostrostomy was performed.
 - J, R., aged 44, male, was in the hospital last January. Illness had started eight days previously with severe pain in the right side of abdomen, both upper and lower segments, coming on three to four hours after food, and not relieved by eating. He had vomited a little blood once. On examination the right side of the abdomen was more rigid than the left, no tenderness in the region of the duodenum, but a little in the appendix region. He was only in the hospital twelve days, and in that time had pain only on one occasion. He was discharged cured. This may have been duodenal ulcer, but is not at all conclusive. It is not unlike the condition described as appendix-dyspepsia, the "appendicitis larvata" of Ewnld.
 - C. G., aged 33, male, was in hospital last February. I have already recorded his case when speaking of tuberculous ulcers of the duodenum. He certainly had ulceration of duodenum, which was possibly tuberculous.
 - M. M., aged 69, female, was admitted last March for intestinal obstruction, due to a carcinomatous mass in the pelvis. The patient had been operated upon about twelve years previously by Dr. Burford for carcinoma of the cervix. Colotomy was performed by Mr. Hey on March 9. On the 10th her condition was fairly good. On the night of the 11th she vomited "coffee-grounds," and continued vomiting during the morning of the 12th. The colotomy wound was opened again, but nothing found. Patient died the next day, and at the post-mortem an old chronic duedenal ulcer was found which had ruptured, filling the small intestine with blood. A history was elicited from the patient's daughters of frequent attacks of indigestion spread over several years. Since her operation in 1900 she had been liable to attacks of acute pain, attributed to involvement of nerve-endings in scar-tissue. It is quite possible that some of this pain was duodenal.
 - E. C., aged 46, male, a cook, was in the hospital last May under Dr. Goldsbrough. For eighteen months previously he had suffered from

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severe hunger-pain in the epigastrium, coming on three or four after meals, and also between 2 a.m. and 3 a m., relieved by pressure, food and hot drinks. The day before admission he had profuse hæmatemesis. melena, and obvious red blood in the motions. Appetite always very hearty, and indulged to the full. Had been cook for some time with a well-known catering firm that allowed him 3 pints of beer and a bottle of wine daily. He said he was not obliged to drink all this, but he had evidently faced the task like a man. On examination extreme tenderness to touch all over the abdomen, worse in the epigastrium. This patient stated that the attacks were always liable to come on with cold snaps of weather. With rest, dieting, and chelidonium, patient greatly improved. but still remained very constipated. Then, under the influence of a dose of graphites, although he was still in bed, the bowels began to act regularly and naturally, and so continued until he was discharged cured.

M. O., aged 29, female, general servant, was in the hospital last month (May). At the age of 18 patient suffered from "ulcerated stomach." pain coming on one to one and a half hours after food with nausea, but no vomiting. (The absence of vomiting was against the diagnosis of gastric ulcer.) Since then she had been quite free from "gastric" trouble until six weeks ago, when she began to have pain three or four hours after meals, going through to the back, and relieved by food and by hot water. Attacks often brought on by a cold change in the weather, or going into very cold air-a characteristic symptom. Bowels constipated. Marked tenderness in midline in epigastrium; also distinct resistance in appendix region, possibly due to associated chronic appendicitis, such as is sometimes found in these cases. The relief of pain by drinking very hot fluids, as well as by solid food, is a feature often noticed. As patient is distinctly tuberculous, having had hip disease when 11, and abscesses in both legs when 26, there is a possibility of the duodenal ulcer being tuberculous. She responded very readily to treatment. The chief medicine given was oxalic acid.

H. G., aged 39, male, has recently come to my out-patient clinic complaining of dyspepsia of some duration, worse lately. Pain in epigastrium used to come on about one hour after meals, lately three or four hours after, relieved by food and by pressure. Brings up much acid stuff, but cannot be sick. (This is often a symptom of duodenal ulcer, and patients often artificially induce vomiting in order to get relief.) Some pain in back; gets free intervals of two or three months at a time. Thinks he digests heavy food better than light-another rather characteristic symptom. Costive, light-coloured motions; has never had melæna or hæmatemesis; some slight epigastric tenderness. Patient thinks the attacks come on more in summer, and has the feeling that cold weather suits him better than hot. This is contrary to the general rule. He has only been up twice. Feels better, and bowels acting better, under chelidonium. It is competent to the sceptic to urge that this is a case of

hyperchlorhydric gastralgia. Possibly the recent aggravation of symptoms points to a hyperchlorhydria passing into ulceration.

Mr. Hey has told me of a case of hernia that came under his care for operation about three years ago. The operation was apparently successful, but shortly afterwards the patient became very collapsed and died from hemorrhage from a large duodenal ulcer that was not known ever to have caused any symptoms. I have not been able to find the notes of this case. Most surgeons of experience have met with cases of duodenal ulcer in which severe, and it may be fatal, hemorrhage or perforation is the first symptom of any account.

Of these twenty cases fifteen were men, four were women.

I will now bring before you a few cases which illustrate conditions similar to duodenal ulcer and requiring differentiation therefrom.

L. C. aged 28, female, was in the hospital in October and November, 1904. For thirteen years or more she had suffered from indigestion and constipation. Had found relief by dropping meat from her dietary and aggravation whenever she resumed it; pain always came on soon after meat. At other times pain was relieved by food. Pain had lately weakened her a good deal in the night. Pain situated in left hypochondrium, relieved by warmth and not increased by pressure. On admission no tenderness was found on palpation of the abdomen. The pain relieved by food and not increased by pressure, also the pain waking her up in the night, are suggestive of duodenal ulcer, but may be explained by hyperchlorhydria. Distinctly against duodenal ulcer are the relief by discontinuing meat, the situation of the pain in the left hypochondrium and want of tenderness on palpation. The case was indexed as gastralgia, and I think, as far as the evidence of the notes goes, one must leave it at that. She made a good and rapid recovery on arg. nit. 6.

W. H. aged 53, male, who was in the hospital in July and August, 1906, had pain in the "stomach" as of a hot weight, two hours after meals, relieved by hot milk or iced milk. Nausea, usually without vomiting, comes on four hours after food. Pain often aggravated by food. The patient's sex and age, together with the length of time that separated the ingestion of food from the symptoms and the relief of the latter by hot milk, are suggestive of duodenal ulcer or at any rate of an ulcer near the pylorus. Against duodenal ulcer is want of relief by eating. At operation a large ulcer was found on the lesser curvature near the cardiac end of the stomach.

Another paradoxical case was that of H. G., aged 44, male, whose pain through two years had come on in the upper abdomen three to five hours after meals, and was greater after soft, semi-solid things, like custards and milk puddings, than after more robust fare. No mention of whether pain was relieved or otherwise by food. Feeling of distension—appetite good. Had lost 4 or 5 lb. in six months. Patient nervous and easily excited. One would have located the ulceration in the duodenum, but the operation an indurated scar forming a mass the size of a walnut

was found on the lesser curvature of the stomach rather nearer the cesophageal than the pyloric end. The ulcer was found to have taken on malignant characters.

- P. W., aged 39, was under Dr. MacNish in July, 1907. Twelve years previously, when following the profession on the sea he had an attack of epigastric or rather left hypochondriac pain, described as an acid burning pain, with eructation and sickness, relieved by food, about once every year, and always brought on either by a bad smell or by excessive exertion. The pain becoming more frequent, he exchanged the sea for mother-earth and became a farmer. But the varied attars of horse-flatus and cow-dung were too much for him, and his attacks came on every month. If he could vomit, or if his stomach was washed out, he was relieved. He had noticed that steaks, cheese, pork and cucumber suited him best, by which he probably meant that solid food more effectually relieved his pain than slops did. Stomach was thought upon percussion to be somewhat dilated. No mention of tenderness or of hæmorrhages appears in the notes. the pain was in the left hypochondrium, and as there is no record of tenderness or hamorrhage, it must be allowed that this was probably a case of genuine hyperchlorhydria. A very marked improvement. amounting almost to a cure, was effected by lactic acid. The validity of this improvement was satisfactorily tested by sending him long walks to horse-sales, an ordeal through which he came without ill effects.
- J. J., aged 40, male, was an out-patient of mine for some time, and at the beginning of this year was an in-patient under Dr. Goldsbrough. Pain two hours after meals, relieved by food and pressure, chiefly in the upper part of the abdomen. Vomiting lately, once blood-stained. While an out-patient he passed some blood and "slime" on one occasion. Against duodenal ulcer were the facts that his pain was too diffused, all over the abdomen, and even over the lower part of the chest, and that there is no rigidity or tenderness of any part of the abdomen. The blood and slime passed by the rectum were in all probability due to piles, from which he suffered. The case was probably one of hyperchlorhydric gastralgia.

Prophylaxis.—One of the most important points in prophylaxis is the care of the teeth and gums. It is no doubt possible to overwork pyorrhœa alveolaris as a cause of disease, but as a point of prophylaxis it can never be wrong to devote special attention to the state of the mouth. If many cases of gastro-duodenal ulceration are of toxic origin, that is, are due to toxins circulating in the blood, and having a special cytolytic affinity for the tissues of the upper alimentary tract, they may well be due to toxins derived from pyorrhœic gums and carious teeth; for oral sepsis is certainly present in a large percentage of these cases.

As hyperchlorhydria disposes towards duodenal ulceration, it is an obvious piece of prophylaxis to treat this condition. The diet must be very strictly regulated. Alcohol, tobacco, spices and condiments are to be avoided—acids likewise, and especially vinegar. Dr. Bolton, of University College Hospital, has experimentally demonstrated that

acetic acid in a very weak solution increases the tendency to plearation of the stomach. He finds that acetic acid of one-eighth the strength of vinegar acts in this way. The fondness of cooks and domestic servants for vinegar may partly account for their great proneness to gastric ulcer. A tumbler of very hot water should be sipped an hour before breakfast and also on retiring to rest. One or two dessert-spoonfuls of olive oil should be taken before meals. The meals should be small and five in number, the supernumerary repasts being taken at 11 o'clock in the morning and at bed time. The food should be largely protein and fatty-eggs, fresh beef and mutton, fish, milk, cocoa, cream, bread and butter, green vegetables in fine purces, and cereals in small quantities. The supernumerary meals-"lunches," as the Americans call them-may consist of a sandwich or biscuits and butter, with a glass of milk or a cup of cocoa. Starchy food should be taken in strict moderation, and saccharin or saxin substituted for sugar. Food should not be taken either too hot or too cold, and it should always be very throroughly masticated. Bathing should be practised and friction of the body with a rough towel. A Turkish bath once a week, followed by general massage, is beneficial. Plenty of open-air exercise, with as much freedom from worry as can be compassed, are to be enjoined.

When the pain of hyperchlorhydria comes on, whether by day or by night, or before its habitual onset is due, it may be relieved or forestalled by a sandwich or a biscuit, with a cup of milk or cocoa. preferable to bicarbonate of soda, which is equally efficacious, although I do not know that as homoeopaths we can logically object to giving bicarbonate of soda in this way any more than to giving an antidote to a poison. It acts in a similar way to most antidotes, that is to say, it mechanically neutralizes and renders inert the excess of acid; it does not of course, act dynamically. The Americans, who are very indiscreet in matters of food, and are especially found of ices followed immediately by hot coffee, are notoriously subject to hyperchlorhydria, a condition to which their strenuous and hustling manner of life acts as a further predisponent. Indigestion, that "conscience of every bad stomach." as Owen Meredith has wittily called it, has taught the Americans the use of chewing-gum. The action of chewing-gum is mainly to promote a flow of saliva. The saliva is swallowed, and being alkaline helps to neutralize the acid from which the patient is suffering.

Dr. Bradley, of Philadelphia (Hahnemannian Monthly, June, 1911), favours the use of intra-gastric electricity. He introduces an Einhorn electrode into the stomach, and uses glavanism in preference to faradism, giving from 10 to 12 millamperes for ten minutes according to Einhorn's method, twice daily, for 10 to 12 treatments. He says that this treatment is pleasant to the patient and not tedious to the doctor.

The treatment of hyperchlorhydria is largely a matter of well-chosen remedies. But of these I will speak under the treatment of duodenal alter itself.

Treatment, Dietetic and Regiminal-We often, no doubt treat these cases in the out-patient department and connive at perambulating duodenal ulcers. But the ideal treatment is to put the patient to bed for some time at least, and then gradually to allow him to resume the ordinary activities of life. Many mild cases, according to Dr. Spriggs, can be cured by giving bicarbonate of soda in 20 gr. doses when the pain comes on and prescribing a bland fatty diet. Cases of hyperchlorhydria concerning which we are not sure whether they are or are not actual cases of duodenal ulceration may be treated without rest in bed. But all cases which are most probably duodenal ulcer in an active state are better treated in bed. The teeth should be attended to without delay, and oral lavage with listerine or glyco-thymoline or the like should be instituted. Parotitis, one of the unpleasant complications or sequels of gastro-duodenal ulceration, does not occur in a clean mouth. Moreover, attention to the buccal cavity may for ought we certainly know go far to prevent recurrence of the ulcer.

If active hæmorrhage is present, treatment in bed is all the more impera-The mouth should in that case be cleansed, the patient kept absolutely still, and an ice-bag placed over the spot of chief pain. If the hæmorrhage is very severe, adrenalin in 20 to 30 drop doses of a one in thousand solution may be administered, according to Dr. Spring's mothod, in a little white of egg. The egg-white takes up any gastric juice that is present and that might digest the clot. Iced lime-water may be sipped. lime neutralizes the acid present and does not distend the stomach as bicarbonate of soda does. Rectal saline injections are given, or if the case is very urgent continuous subcutaneous infusion of saline with or without glucose is instituted, and perhaps morphine or morphine and apprine given hypodermically. Severe bleeding quickly repeated two or three times in spite of treatment is an indication for operation. It must be remembered that he morrhage is rather more often fatal in duodenal than in gastric ulcer. The use of horse-serum in hæmorrhage I shall refer to presently.

In cases in which hæmorrhage is slight and the patient is in fairly good condition, the oil treatment introduced by Cohnheim in 1900 may be tried. If the patient can endure it, he may be given, according to Dr. Spiggs, half an ounce of clive or almond oil every three hours, increasing to 1 or 2 oz., until there is no blood in the stools. Nothing else is given except water for the thirst. Then cream is given, and gradually the articles of a Lenhartz diet. If the stomach-rebels, it is worse than useless to persist in an exclusive oil treatment. In that case nothing is better than to give the Lenhartz diet from the outset. This diet was originally devised for gastric ulcer and consisted in the main of protein and fat given in an easily assimilable form from the very outset and in spite of recent hæmorrhage. To be more precise, the staple of the diet for the first week is milk and raw eggs. The eggs are beaten up with sugar and iced. The milk and eggs are given in frequent small doses from a teaspoon. The ritual

'ordains \(\frac{1}{2} \) pint of milk and one egg for the first day, an allowance which is increased daily by the addition of 4 oz. of milk and one egg until by the eighth day 2 pints of milk and six or eight eggs are being taken. From the third to the eighth day raw or almost raw minced beef is added, starting with 1 oz. in divided doses, either beaten up with the egg or alone; the next day 2 oz. are given. About the eighth day boiled rice is added, followed by softened bread, and later by a small quantity of bread and butter. One or more eggs may now be lightly boiled. The diet is then gradually increased by the addition of minced or pounded fish with a corresponding reduction of eggs, until by the end of the fourth week the patient is on an ordinary mixed diet, peas and other indigestible seeds being excluded. On the twenty-eighth day the patient is allowed to get up, and he is discharged from the sixth to the tenth week.

I take this description from Dr. Sprigg's paper in the British Medical Journal, 1909, i, 825. The great advantages claimed for this method are that a considerable amount of nourishment is given from the first, that the difficulties and inelegances of rectal feeding are avoided, that the danger of hæmorrhage is not at all increased and the pain, if anything, is diminished and that the ulcer heals more rapidly owing to the heightened general nutrition. The rationale of the diet of eggs and milk—protein and fat—is that the protein neutralizes the acid of the gastric juice and so protects the ulcer from digestion, and that the fat, as Pawlow's work has shown inhibits the secretion of gastric juice. It is urged that it is impossible to keep the stomach absolutely at rest (for rectal injections cause secretion of the gastric juice; so does blood in the stomach; so does the thought of food), and that it is therefore of chief importance to try to neutralize the juice as it is secreted.

A quite rational addition to the egg and milk diet would appear to be jelly. It is a protein-sparer and it has some styptic properties.

Part of the Lenhartz method of treatment is an ice bag kept over the stomach constantly for the first fortnight. I do not recommend the ice-bag except for the emergency of urgent hæmorrhage. If food is introduced into the stomach at all, it is better that it should be rapidly passed on and not allowed to stagnate in the stomach, as it might do if the movements of the stomach were inhibited by an ice-bag. For pain without hæmorrhage hot fomentations, as recommended by Dr. Bolton, should be employed.

I should not wish it to be understood that I think one rigid system of dieting is the only means of physical salvation for the sufferer from duodenal ulcer. I think the Lenhartz system, which may be modified for special cases, a good one, and I am more particularly interested in it has been used with considerable success at my own hospital, St. George's. Several different methods, as a matter of fact, seem to be used with very nearly equal success.

Before I pass on, I ought perhaps to refer to Dr. Hort's method of

treating ulcer, whether gastric or duodenal, as it is somewhat revolutionary. In cases unattended by hemorrhage he thinks absolute rest in bed is seldom necessary for more than a few days. He is of opinion. moreover-and this is the most striking feature of his system-that the diet ought to be dry. He even withholds milk in the majority of cases. The ordinary fresh meats, with the gravy thereof, pounded chicken and game, toast and stale bread, eggs and hot water, are the main constituents of the frequent small meals that Dr. Hort gives to his ulcer patients. Dr. Hort argues that fluid or semi-fluid food tends to stasis, fermentation. evolution of gas, and the steeping of the edges and base of the ulcer in a decomposing medium charged with fatty organic acids and the products of fermentation-all circumstances that interfere with healing. Theoretically this is well enough, especially as against a Lenhartz or other semifluid diet in which an ice-bag is used; for the ice-bag must diminish the gastric movements and so promote stasis of the gastric contents. But it is doubtful if Hort's objections have any but a speculative value. It has vet to be shown that his dry diet produces better results than the Lenhartz. Nevertheless, there must be no unreasoning conservatism matter.

But even if Dr. Hort's results were better than others, it would still. I think, have to be shown that this improvement was not due to another special feature of his treatment, namely, the use of normal mammalian serum. Normal serum from horse, sheep or ox has the power of inhibiting the ferments which are set free from the leucocytes and necrotic tissues found upon the surface of ulcers-hence it disinfects the ulcer and limits its spread. This action was first established in the case of varicose ulcers. Dr. Hort found that the results of dressing large variouse ulcers with sterile gauze soaked in normal serum were excellent; equally good results were obtained in sinuses and other wounds that would not heal, sinuses connected with bone alone excepted. Dr. Otto Grunbaum, of the London Hospital, has testified that the effects of normal serum on chronic superficial ulcer are little short of marvellous. The next step was to use the serum (which was prepared for Dr. Hort by Allen and Hanbury in an artificially fortified form, under the name of "antilytic serum" - antilytic' because it inhibits cell-destruction by arresting the spread of suppurative and tryptic digestion) for gastric and duodenal ulcers. Dr. Hort recommends that it be given in ordinary chronic ulceration in doses of 12 c.c. in half an ounce of cold water three or four times a day for at least a month. It must be given immediately after food, never on an empty stomach.

But normal serum is not only antilytic, thus aiding the healing of ulcers, but it is also anti-hemorrhagic. It is useless for traumatic hæmorrhage, but Hort has used it with great success in various hæmorrhages that have or may be assumed to have, a toxic basis, such as hæmatemesis, duodenal hæmorrhage, purpura, epistaxis and hæmopathilia. In addition then to the oral administration of adrenalin in white of egg, the ice-bag on the

epigastrium, rectal injections of normal saline, the passing by a tube of a few ounces of iced water into the stomach, normal horse serum may be injected two or three times if necessary, at intervals of two or three hours, into a vein or under the skin. Or it may be given equally well by the mouth. Dr. Richard Thorne Thorne, of Woking, recorded a case in the British Medical Journal about a year ago of a man, aged 63, with duodenal ulcer in whom heemorrhage lasted for six weeks. Every kind of treatment was tried in vain, and when the patient was apparently moribund antilytic serum was given by the mouth in full doses. Within a few hours the heemorrhage ceased completely, and the patient made an interrupted recovery. The chief drawback to normal serum is its price, which restricts its use to hospitals and the well-to-do. The British homeopathic Journal, January, 1913.

(To be concluded).

Acknowledgments.

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THE STORY OF THE LONDON MISSIONARY SCHOOL OF MEDICINE.

By Dr. E. A. NEATBY.

Introduction.—An ancient author has written "None of us liveth unto himself." The influence of the least and of the greatest of us spreads, for good or ill, beyond the area of our knowledge and of our control, just as a stone thrown into a lake produces ripples which, in ever widening circles, spread beyond our range of vision. This is true of institutions as it is of individuals, and I want to illustrate this saying in connection with two institutions in which, before we separate, I hope we shall all be interested.

Primarily then, my subject is "The Story of the London Missionary School of Medicine," and incidentally, the part played in that story by the British Homocopathic Association. I propose to give (1) a definition of the School; next to explain the needs for such an institution; then to endeavour to show how the School meets those needs—to show it by (a) a description of the School: its home, its origin, its organization and its curriculum, and (b) by examples from the work of its students in the foreign mission field.

Definition.—The London Missionary School of Medicine is a School for teaching the elements of medicine, surgery and their specialities to Missionaries working in foreign lands.

Its objects are to assist Missionaries to take care of their own health; to enable them, when far away from qualified medical aid, to look after one another when ill; and, in uncivilized lands, to treat the sick and suffering who always expect the white man to know everything.

NEEDS.

What evidences are there that such training is needed?

- 1. Years ago the Rew James Calvert wrote from Fiji, "There was no medical man within 1,200 miles of us, and we were sometimes compelled to act, whether we knew or not, and we found a small smattering of information was of the utmost value to us. I hope that all missionaries who go where there is no doctor will get as much knowledge as they possibly can." (Report of Centenary Missionary Conference, 1888, vol. 2, p. 15.)
- 2. A recent student writes from China, "It takes eight days for us to get a doctor, so that you will understand we need to be able to treat the sick ourselves."
- 3. Again, from the (late) Celestial Empire, "I am more and more convinced of the usefulness of the training of the London Missionary School of Medicine, and that not merely for the treatment of natives, but also for the management of cases of sickness amongst fellow missionaries."
- 4. Speaking from his experience in Central Africa on the Congo, Mr. Cartwright says, "It is a great mistake for missionaries to go out expecting they will be able to lean on duly qualified men to help them in case of sickness. One of our stations is about 350 miles from the nearest doctor; another is about 500 miles, and it would take us about seven days at the very least, to get to the doctor (fourteen days there and back?)
- "Too much stress cannot be laid on the fact that every man and every woman who leaves England as a missionary, should be able to depend on themselves in case of need."
- 5. At the armual meeting of this School in an adjacent building, in the summer of 1910, a missionary from India—not one of our own students—said, "I want to say this, and

I say it from conviction, that I think it is criminal for a Missionary Society, in these days to send a missionary out to the foreign field, without his having received some such training as is given here. I heard the other day that of the deaths among missionaries in the foreign field sixty per cent. were preventable."

6. Curiously enough, two years later, in the same building, a former student of this School, returned home from China, used the same expression (quite independently)—" ignorance, under the circumstances, is *criminal*, because it is nowadays inexcusable.

Before leaving the subject of needs let me give you one or two concrete instances.

- 7. Here is a typical case told by a lady now on furlough—
 "A beggar, sitting on a piece of matting, on which he dragged himself along, came in one morning. Both his feet had been frost-bitten during the winter, and one of them was gangrenous almost up to the ankle, the other very little better. It was quite impossible for the poor creature to undertake a journey of about six days to the nearest hospital, and we would gladly have helped him. We knew that one foot ought to be amputated, but as neither of us had ever seen such an operation performed we dared not undertake it. The man disappeared, and most likely died by the roadside; his home was in a distant province, and even if he had been able to get there he was by no means sure of a welcome."
- 8. Coming "nearer home" to the white man, I may mention in passing the case of friends of my own, missionaries in China, a lady of refinement and a sensitive and cultured man. They were both absolutely without experience or knowledge and without any but native help. Some of you can imagine what it meant to them both—the terrified wife and the frautic husband—when the lady's confinement came on a fortnight before it was due, the doctor who had been arranged for being a week's journey away. Ultimately they were able to say "All's well that ends well."

- Another class of evidence showing the need for some degree of civilized and scientific treatment is furnished by the various native methods met with-futile, barbaric or supersti-A missionary already quoted says: "It is very difficult to get the people to drink the medicine; they do not understand drinking medicines. What they want is something they can hang round their necks or put in their belts or somewhere about the body, which will act as as charm A man comes along with a severe headache, and you hand him a dose of medicine and he says 'I do not want to drink it, it is not down there I am ill, it is up here.' If you can put some menthol on, or some good iodine or a plaster, he goes away satisfied. One man said. 'If I swallow that pill I shall not have it.' He wanted it to hang round his neck."
- 10. Puncturing with a needle is one of the chief Chinese methods—used indiscriminately for various diseases—and the needle is not sterilized, probably used over and over again without cleansing. This is not, as you might imagine, to let out "matter," real or imaginary, but to impale the evil sprits lurking in the tissues!

Cow-dung and other filth rubbed into open sores is a common dressing, and pepper for an inflamed eye.

Here is a prescription by an imperial physician (in China) for a troublesome tooth: "Take the bones of a rat, pulverise them and apply to the tooth. If it is fore-ordained that the tooth will come out, this will bring it out; otherwise it will become more firmly fixed."

A different form of dentistry is pursued in Central Africa, where a tooth is loosened by the daily use of a hammer and chisel for a fortnight—after which time a little prizing with the chisel or a skewer will remove it.

Tigers' bones, scorpions, centipedes and filthy mixtures stand for medicines, rusty knives and needles for surgical instruments.

I hope I have now offered enough evidence to show you that there is a real need for some medical training for missionaries, seeing that in many places, qualified medical aid is, for one reason or another, unobtainable.

EARLY ORIGIN.

In the last decade of last century and the first two or three years of this, different members of the staff of the London Homceopathic Hospital received applications from missionaries to be allowed to see some of the treatment carried out there. In particular, I remember two from different parts of South-Central Africa, from Matabeleland and Mashonaland, if I remember rightly. They had been brought face to face with illness and accident, with which they had been unable to cope. We showed them what we could, but the teaching was scanty, scrappy, and wholly without system.

EARLY ORGANIZATION.

In the year 1903, the newly-formed British Homoeopathic Association undertook to organize systematic instruction for missionaries, with regular lectures and practical experience. The course of training was thus one of the departments of activity of the British Homoeopathic Association, and in this part as in its entire early organizing, Dr. Burford was the most assiduous of workers and most fertile in suggestions. At once it appeared that a need was met, for in the first session we had—for longer or shorter terms of study—no less than twenty-four students. Little by little we added books, models and various facilities and apparatus to our armamentarium. During these early years the course of training was arranged and managed by a sub-committee of the Association, and any deficiency in its finances was met by that body.

From the first the project met with the hearty sympathy of most of the members of the medical and surgical staff of the hospital, by whom most of the teaching was given. In one or two instances, however, teachers from a distance were secured; the late Dr. Hawkes, of Ramsgate, came up for First Aid lectures, and until this session Dr. Edith Neild, of Tunbridge Wells, delivered the lectures to women on the elements of Midwifery.

The Board of Management of the London Homocopathic Hospital gave the movement every facility, and our teachers and students have had the advantage of using the clinical material of the Hospital. Nearly all the teaching is thus centred under one roof—dentistry being the main exception. At the present time even that is partly carried out in that building.

DEVELOPMENT.

In 1906 it was felt that, the training course being by that time well organized and the machinery running smoothly, it would be an advantage if an autonomous body with a name and entity of its own were formed to carry on the work. The Council of the British Homocopathic Association raised no objection to this, and, after discussion, the title "The London Missionary School of Medicine" was adopted, it being thought that the word missionary sufficiently indicated the scope of the work. The late Captain Cundy accepted the post of President; in 1906 a Council was formed, consisting of various non-medical men and women interested in missionary work or in the hospital. A medical Executive Committee continued to administer the School, with Dr. Burford as chairman until 1908, and subsequently Dr. Cronin. Monthly meetings of the Executive were held, but the posts of Vice-President and Councillor were at that time sinecures.

INDEPENDENCE.

Shortly after this (1909) it was felt that the School need no longer be a burden on the Association and its funds, and by mutual agreement the School became an independent body, the parting being entirely friendly. The "deed of separation" recognised the indebtedness of the School in its early years to the sympathy and financial aid of the Association; the Association wished the School God-speed and expressed its readiness to give favourable consideration to any appeals for aid its now fully-grown offspring might require or desire to make for help or counsel, but accepting no further responsibility to finance it. The friendly connection is maintained by the fact that Mr. Stilwell, a member of Council of the British Homeopathic

Association became a Vice-President of the School, while Mr. Knox Shaw and myself, members of the executive of the School, are also members of the similar Committee of the Association. Mr. Stilwell is also Chairman of the Board of the London Homeopathic Hospital.

In 1909 we had the misfortune to lose our President by death, at the advanced age of eighty-two. Captain Cundy was a warm friend of the missionary at home and abroad; he was on the Council of the London City Mission and of the Church Missionary Society. In 1911, after an interval when we were without a President, the Revt. J. Stuart Holden kindly consented to accept the post. Mr. Holden has a wide knowledge of missionary work all over the world and is officially connected with various missionary efforts in China, Africa and South America. As regards medical belief, Mr. Holden approves of anything which does good, and as regards Homeopathy, his attitude is "almost thou persuadest me." Mr. Holden has shown an enthusiastic interest in the School.

For some years the Council (non-medical) and the Executive (medical) have held joint meetings and at present these take place three times a year.

The professional management of the School remains as before in the hands of the Executive, but that Committee feels that its hands are strengthened by the knowledge and experience of the General Council and expects as its members gradually take an increased interest in the School that its work will undergo a large development.

A Ladies' Auxiliary has recently been formed, and it is believed that their efforts will greatly aid in making known our work.

CURRICULUM.

When a student enters the School he or she signs an undertaking not to call himself or herself a medical practitioner, and it is understood that the training is not intended for use in this country, where there are properly qualified doctors enough for purposes and altogether too many amateur doctors.

Each session has three terms. The training includes systematic lectures, begining with Anatomy and Physiology, which subject is repeated in January—the Winter term. It is most desirable that all students should begin in October and take the whole Session. With many this appears to be impossible; no red-tape regulations are made, therefore, and students are admitted for any part of the training—or for any single subject. The other subjects taught include First Aid to Injured, lectures on Medicine, Surgery, Diseases of Women and Children, of the Eye, Ear, Throat, etc., Tropical Diseases and Hygiene, Obstetrics, Nursing, etc.

In addition to the formal lectures, students receive personal instruction in the wards and, especially, in the out-patient department; they sit with the doctors, hear the descriptions of the patients' ailments, examine them under the doctors' guidance, see the treatment employed and its results.

Special bandaging classes are held, and students see the dressings applied and later have an opportunity of doing some of the dressings themselves.

Dentistry is taught by means of lectures and practical instruction in extractions and fillings.

During some part of the course they go into the wards and learn some of the practical duties of nursing.

Examinations are held from time to time and prizes are awarded of a nature likely to be helpful to the winners in their medical work. In most years these prizes have been named after the donors.

The features of the London Missionary School of Medicine, which distinguish it from those of kindred institutions, are these: Here, first an endeavour is made to meet the needs of all classes of students—those who have time for the whole course and those who have only a few weeks at their disposal. Secondly elasticity is permitted as to the subjects taken. Any one subject or any subjects may be selected by the students, if necessary. A third feature is the central position of the School and the concentration of most of its work under one roof; fourthly, the un-

sectarian nature of its teaching, and fifthly, THE UNIQUE FACILI-

I have already said that most of the teaching is given in the London Homeopathic Hospital. The best description I can give you of this Institution—the home of the School—is by showing you a few lantern slides of various parts of it.

Personnel.

We have had a total of 225 students since the School started nine years ago. These are now scattered over the globe—from South Africa to Mongolia; from China to Peru—from Iceland's snowy mountains to India's coral strands. I must read you short reports from some of them to enable you to judge how our students acquit themselves when brought face to face with disease and accident.

One of our students, Mr. Job, after being out in Peru about three years writes, "I have been successful in many things, from the extraction of a human tooth to the sewing up of a large tear in the stomach of a horse with a darning needle and a piece of hair taken from the tail of the poor animal," he also narrates the case of his own child, who, at the time of writing. he says was a lovely child of eight months. "When five months old she had an attack of measles, followed by an acute attack of gastro-enteritis, which we were successful in treating. when congestion of the brain set in; by this time the poor little thing was reduced to practically nothing but skin and bone; her large blue eyes had sunken back almost out of sight. and she looked an object of misery as she lay on her back screaming and grasping frantically at the air. It was a long and anxious evening, and by midnight our hopes had almost expired. Nothing seemed to bring relief and we felt that the little one whom we loved so dearly was going. Then just at the last moment, as it were, I was directed to Veratrum Vir.. which I immediately felt was the remedy. But I did not have it in my medicine chest, so 1 ran to a fellow worker who happened to have a little, which he had got from Cuzco just previously

for a case of sunstroke. I ran back and commenced to give it every fifteen minutes, and within an hour there was an undoubted change for the better. The little patient was much quieter, her quick pulse had fallen by about thirty beats to the minute, and she began to sleep for the first time for over twenty-four hours. Next day Mr. McNairn and Nurse Pinn came from Cuzco to our aid and helped our little one back to health."

I may say by way of parenthesis that the ladies usually do best at the hospital and carry off the prizes, and are in no way behind-hand in the rough work of the battle-field of life—we have the following: "In the dentistry line, I have quite a lot of extractions to do, as since Dr. Glenny left us there is no one else on the station to do it. I sincerely trust that Miss Pinn has not been allowed to shirk this part of the training as I am looking forward to letting her share in this work. I wish we had a proper dental chair, as it is difficult to manage with an ordinary dining room one!

"You will be interested to hear of a case in Surgery I had recently. It will prove that the teaching I had in that subject was not thrown away. One Monday afternoon, while I was out at the Women's Meeting, a telegram arrived from Urco, the farm belonging to the Mission, asking me to come at once as 'Domingo,' had cut his face badly. 'Domingo' is a little Chetchua Indian boy, brought from the Montana hy Mr. and Mrs. Johnston, friends of our mission. A second telegram arrived to say that 'Domingo' was crying for his 'Mother' (Mrs. Johnston), so she arranged to come with me. Knowing the difficulty of hiring horses here in Cuzco, Mr. Payne sent two in from Urco; they arrived at 8 p.m., and having been fortunate enough to procure a mule for the man to return with us, we started at 10 p.m., on our ride of eight leagues. For two hours we had a little moon-light, then the darkness, the roughness of the road and the tiredness of our horses hindered our progress. Fortunately the roads were dry, and therefere

light in colour; as Mrs. Johnston rode a white horse, while she was in the lead, I could see something.

"In due time we arrived at Urco, and were welcomed by Mr. and Mrs. Pavne. We found that the latter had been up all night with the little sufferer, who had not been able to sleep. As he was then quiet, we had breakfast before attending to him. On examination we found a long gaping cut on the side of the nose, which had perforated the nostril, and the left eyelid was very much swollen. There was also another small cut to the inner side of the eyebrow, but that was unimportant. We gave chloroform, then I washed the wound well and put in five stitches, one of which had to take in the small cut as well, as it was so close to the other. Next I turned my attention to the eye, for which I had grave fears: alas, on examination I could see nothing but a bluish mass-all that was left of it. As Mr. Knox Shaw did not tell us how to mend broken eyes, I just kept cavity well washed with boracic lotion, and later the boy was taken to Cuzco for treatment."

The Rev. T. A. Cape, who was one of our first students, says: "My experience is that a missionary abroad, whether trained or untrained, will do medical work. The missionary will always have the natives come to him for treatment, and it is a painful thing if he has, through ignorance, to say 'I can do nothing for you.' I am deeply grateful when I think how useful the things I learned at the London Missionary School of Medicine have been to me in my work abroad, grateful for my own and my work's sake, and glad for what I have been able to do for others. When I first came to India, they sent for me to see a little baby . . . suffering from bronchitis. I had a very anxious time with that baby, and visited it twice a day. I thought at first that it was going to die, but gradually it got better, and at last it was quite restored. Then I said, 'It is all right, I shall not come again.' Then the mother took up the black baby and put it into my hands and said, 'Sahib, it is yours now.' Of course I made haste to give it back again."

Mrs. Duncan White, writing from Bengal, says that though

she had only two months at the London Missionary School of Medicine, she has found the knowledge gained most useful. She sees many cases of cholera and plague, but does not often treat them. They are nearly all native cases and are so badly nourished that they do not stand much chance of recovery. Even in India where there are many native homeopathic doctors, she recently had to send from Dhanbad to Calcutta for a child of three, who had had punched-out ulcers on legs and arms for months. Mrs. Duncan White prescribed Silicea and an ointment of Lycopodium, which the baby's mother said acted like magic and cured the patient in a fortnight.

Miss Akers from Shih Tao, via Chefoo, while learning the language, treated some eases. One was that of a boy with terrible injuries to the eyes and two fingers, caused through playing with a gun. One eye was destroyed, but the other, "thanks to the knowledge gained at the Homeopathic Hospital," she was able to save. She operated on the middle finger and removed the shattered pieces of bone, after which the finger healed beautifully and was not at all unsightly.

How missionaries can be useful to their own fellow workers is narrated by Mr. Walker, of the China Inland Mission, who had to look after two of his party who got cuts on their foreheads down to the bone. These required several stitches and wish aseptic dressings healed almost without scars.

Malaria is very prevalent in British Guiana, and Mrs. S. Smith, who, as Miss S. Pegg, was with us some years ago, tells us she treated her husband, who had a temperature of 104, after he had taken a large quantity of Quinine without relief; she gave Arsenicum 3x, and after a few hours the fever left him.

In the case of a child with bad diarrhose and vomiting, she feared the responsibility, and sent it to a doctor in the town (Henrietta, Essequebo). A few days after the child was brought back, because, after taking three bottles of medicine it was no better. After one dose of *Veratrum alb*. the child began to mend and was soon quite well. In this district seventy-five per cent. of the children have enlarged spleens.

Mr. Masters writes that when his little girl was born he had to be "doctor, nurse, mother and father," all of which posts he seems to have filled nobly—at any rate, "everything was quite satisfactory."

A testimony of another kind comes to us from a worker in Tripoli, who had been there before she came to us. Before she returned she had to nurse her father in his last illness, during which time he said to her "that it was well worth the fee at the London Missionary School of Medicine for the comfort she was able to bring to him."

For a time after returning to Tripoli she worked with a doctor who was opposed to Homeopathy, but after seeing her work he remarked what an advantage even a partial training was over none at all, and after she assisted him at an operation he turned to her and said, "you have done very well, nurse." After this doctor left she had the responsibility of over 1,000 cases a month—malaria, enlarged spleens, dysentery, cuts, burns, and many eye cases. Carbuncles in old people are serious, but she records the successful treatment of one. For her services she has been offered a Turkish bath, a big candle, eggs, an armful of radishes, etc.

Mr. Cartwright, already quoted, writes thus: "The people about us are always fighting. Every town, or village, or tribe is at enmity with the next one; so when they meet there is a big hubbub and they fight and get bad wounds. One man had been stabbed with a tremendous knife, such as they carry, and had received a bad wound in his side, cutting through the muscle down to the bone. The same man had also been struck across the thick part of the calf of the leg with a spear; it looked as if either wound was sufficient to bleed him to death, and when he was brought in I could not feel his pulse, and said I believe he is dead.' With the help of injections of Strychnine he rallied, and we stitched up his wounds; after careful nursing he got quite well.

"The same day another man was brought in with a terrific gash across the top of his head. An arrow had struck him across the right eye and passed under the flesh along the skull to the other eye. I thought that the man would die, but he completely recovered. And there are one's fellow missionaries. One of my comrades suffering from malaria had hyperpyrexia—temperature 106, still rising. You have to know just what to do and to do it quickly. I was able to give a bath with such effect that the temperature came down and probably saved his life."

A speaker at one of our annual meetings, Mr. Hodge, said:

"A short medical training brings with it a moral influence.

If you spend three or six months here as the case may be, you are not a coward in the presence of disease, as you otherwise might be. I have found this true myself in India. We had to pass through great epidemics of plague; the pestilence was stalking through the land' and the very atmosphere seemed oppressive and diseased. The fact that we had a little medical training gave us moral courage to visit the people in their homes and to do something for them.

"The natives expect you to know everything. Once in an unguarded moment I asked an Indian villager the simple question, 'do you think it is going to rain?' He answered me in this fashion, 'If you do not know whether it is going to rain or not, who on earth does?' That is exactly the position they take up in the matter of medical help—if you do not attend to their ulcers and abscesses it is because you will not, not because you cannot."

Miss Crawford, who is working in China, writes: "I am now on a visit to a friend who has taken to homoeopathic medicine although he has had training in allopathy, he has kindly written out the following for me to send to you, I hope it may be of interest. 'Commenced in 1911 with low potency 3x-6x and was very pleased with result, compared with what one got in the old school treatment. This year I began using higher potencies, 30, 200° and 1,000, and have had far better results, especially with 200 and 1,000. I have seen altogether about 3,200 patients this year, and the fame of the "little globules"

is spreading throughout the country district, some patients have come from a distance of 100 li or more. It is difficult to get the case taken according to Kent's "Generals and Particulars," for the Chinese are materialists and like to dwell on the particulars, but when one does get to the "generals" the results are gratifying to both patient and prescriber. I could give details of some very interesting cases, but space forbids. I had a good result in a case of typhoid lately...a very serious case, of a voung man who is a native of Shanghai. Having had intercourse with foreigners he had every confidence in us, which is everything, for the Chinese change their doctors almost daily. After a few days observation, typical Rhus symptoms stood out plainly and three doses of the 30th potency brought down temperature, took away delirium and took patient on to convalescence without any more medicine. He did not gain strength as quickly as he desired, and asked if he should take some iron tonic, of course I said no. and four doses of Carbo veg. 30 made a different man of him, for before taking this he feared cold and any exertion tired him, but he soon felt strong and well. Another man, a teacher in a school here, had the same disease, but trusting to Chinese doctors, died in three days after taking their medicines'."

Miss Jordan writes from Central Africa: "We make use of all three methods of treatment, Homospathiy, Allopathy, and Antipathy i You may think this is strange, but we carry out Dr. Deane's advice, 'If you haven't got what you want, use what you have.' At different times of the year the natives seem to have epidemics of diseases of one kind or another. At the end of the dry season nearly every one had bad eyes, and I believe I mentioned in my last letter how much I enjoyed attending to these, and by using Mr. Knox Shaw's remedies, every patient whom we treated recovered, and that very quickly. Just after the rains commerced we had quite an epidemic of of dysentery. The heavy rains washed all the dirt and rubbish into the little rivers and the people were careless in getting their water, so we had a few very busy weeks, continually running down and up the hill to carry medicine, soup, etc., to the

village. We followed Dr. Deane's instructions, half a grain of Opium, followed in one hour by twenty grains of Ipec., followed by several doses of Epsom Salts, and I am thankful to say all our patients recovered, although some were really very ill. . . . Sometimes the natives will refuse all medicine, food, water, and everything, and simply lie down and die; this is the case if they think they have been bewitched, they say 'No, medicine is no use, I am bewitched, I shall die anyway.' In one case one of the missionaries said he had a medicine for witchcraft, and got the patient to take it and he recovered, but this will not alway act."

Mr. Maisey, of British Central Africa, writes: "Since our being here the natives have put us up a temporary hospital and already we have several patients in it; one is a woman who was caught by a lion, the wounds are healing up nicely; several others are suffering from dysentery. Recently two men were brought to the station having been mauled by a leopard, and each of the wounds required several stitches. The knowledge I gained at the London Missionary School of Medicine has proved invaluable; we have no doctor within a hundred miles. I am often called long distances by night as well as by day."

Miss Brittle sends us an interesting account of a patient she recently treated. She says "the patient seemed unwell and anxious, had a little cough and complained of a sharp pain in her left side when she breathed. She was put to bed, hot fomentations applied and Bryonia 3x given. (Temperature not quite 100.) Very soon it was noticed that there was practically no cough, temperature fell to almost normal, no pleurisy sounds could be heard with the stethoscope and yet the pain continued. Then Gatchell's text book described the false pleurisy, a neuralgia in the intercostal spaces—treatment as for fractured rib. Accordingly the patient's ribs were tightly fixed in that manner by plaster three inches wide and this was left on for ten days. After two days the patient was up and about and has had no return of the pain."

Miss Burckhardt writes from the Malabar Coast: "It is

always a joy for me to look back to the time I was allowed to spend at Great Ormond Street, and often I am talking to my fellow missionaries about the things I saw and learnt."

One of our students, who is also a trained nurse, has had, for many months, to play the part of a doctor, having full charge of a hospital in the absence of any qualified medical woman; she has recently sent me a remarkable but condensed account of her responsibilities. She writes: "We are very busy indeed, and it is almost more than I can get through with only two little Chinese nurses to help. The senior nurse has only been with us about fourteen or fifteen months, and the younger one not a year but they have got on splendidly, and are able to do nearly all the out-patients' dressings. We are now having over 1,000 patients per month, so that there is a good deal to do! I have all the prescribing, dispensing, opening abscesses, whitlows, ctc., taking out teeth and writing up the books and prescription papers. I keep an eve on the nurses all the time and see every patient. Our in-patients, too, have increased a good deal; last month we admitted forty, which was the most we have ever had in one month.

"The new wing of our Hospital is a very great comfort. We have such a nice out-patients' hall, dispensary, consulting room, mortuary, great hall, and four private wards, as well as nurses' room and drug store. We are having many of the wealthy and official classes, who pay good cents for private rooms. We still have insufficient accommodation for them, so I have been negotiating about buying another adjourning tumble-down house, and the purchase will soon be completed I think, and by the spring we shall have a few more private wards."

I do not wish you to suppose that our students never make mistakes! Is there any fully qualified doctor who never makes mistakes? Of course critical people who sit at home in their ceiled houses say, "A little knowledge is a dangerous thing." It is hardly an original observation! The thoughtful man at home says, "A big ignorance is vastly worse." But the all persuasive answer from the practical man in the field comes,

"A LITTLE KNOWLEDGE IS A BIG HELP." I hope that you will agree with the practical worker and that you will think that the London Missionary School of Medicine does well to supply that knowledge.

"ALL SHOULD TRAIN."

In concluding, I venture to claim that there is hardly one in this room who should not be interested in our School for one reason or another; first, on the comparatively narrow and specialised ground of its unique medical and scientific position; in addition to teaching the elements of medicine as commonly taught elsewhere, we supply the beginnings of a knowledge of homeopathic treatment, and we endeavour to give it its due place in therapeutics. How great an advantage that knowledge gives its possessor you may have gathered from some of the experiences narrated to-night; if you have not, I can only say, make the experiment for yourselves the first time you have a chance. In the second place this work may well appeal to you on the ground of philanthrophy—the love of our common humanity, and that sometimes at its weakest and darkest; the love too, perchance, of our nearest and dearest; for now-a-days bow many of us have dear ones in the distant parts of the globe!

Thirdly and lastly—and if last not least—to many it will appeal as a powerful auxiliary to the spread of the Gospel of God, which brings life and joy and fruitfulness into dead hearts and spirits of men and women both at home and abroad.

ONE CAMP.

Dr. M. L. TYLER.

MR. PRESIDENT AND GENTLEMEN,

So long as man's mind is finite and truth, we shall not see eye to eye. Perhaps a world of perfection and definition, a world in which there could be no questioning, no arguing, or disputing, might be deadly "dull?

Perfect Light—perfect truth—pure, white, dazzling! but let them fall on a thing of many angles and imperfections, and they are distorted and broken up, and split into their component parts; and instead of the pure unquestionable ray, than any one but a blind man can swear to, you have a band of brilliant colours. And one man will gloat on the red of the spectrum, which appeals to him; and another is red blind, and sees blues and greens only, with a dash of yellow, and absolutely no orange or purple; while a third asserts that to him are visible the ultraviolet rays, and perhaps rays of higher or lower vibration, dark to the majority of mankind, at one or other end of the common spectrum. And now gather the whole bundle of colours togather, and set them spinning, and you will see them blend, and fuse, and fade, and merge again in dazzling white.

So with truths!—but who, in this brief life-span, can gather the whole bundle together, and set them spinning and blending and merging in his brain, and attain... Truth?

In the meantime, a man can only swear to what he actually sees: will only love and follow what appeals to him: and this he will make his own. And his mind, concentrating, narrows its field, as it perfects its minuter vision; and he will use an iris diaphragm to shut out much of the light, in order to concentrate all his powers on the subject of his research; while another man, looking down through the adjustments of his lenses, sees absolutely nothing!

Of the many truths that go to make up truth, one appeals to this man, another to that other...and both are right...so far as they go!...all converge, if the lines are produced, towards some grand, distant centre, in the very heart of things.

Rays of truth (as we trust) are falling among us to-day, through that chink in the dark curtain that we call Science; but we each see a different ray, and absorbed in what appeals to us, in what we have known and studied and made a part of ourselves, we toss impatiently at all that does not, on the surface, fit in with that which we have made our own; perhaps the lines are so close and short that they seem to be parallel, as if they would never cut.!...so we question fiercely, and fling words about.

Those among us, for instance, who live with eye glued to microscope, who handle and culture and slay and work in the toxins of (or associated with) micro-organisms, are naturally absorbed in the contemplation and the potentialities of this great world of the infinitely little; and who shall blame them if they almost come to believe that the whole therapeutic realm lies at their feet? While those among us who see diseases associated with bacteria clear up rapidly before a few doses of a well-chosen homocopathic remedy, administered in deference to law, learn to think less of the specific organism, and more of the patient; till we actually begin to question whether the organisms are causal at all. But are we not absolutely on the same ground... resistance?...the resistance of the patient? Is not that, after all, the one vital factor...to the patient?...and how best to raise a deficient resistance, how to restore immunity, is not that the factor of importance to the physician if he is to cure; and that whether he chooses his remedy from mineral, vegetable or animal kingdom, or from venous, disease-products, or germ-cultures; Because to cure any patient, the patient has really got to be made to cure himself.

We, the homosopaths and the bacteriologists are in the same camp...the camp of scientific medicine...medicine administered in accordance with *Law*, not fancy, or authority, or tradition, or blind or senseless experiment. Shall we not, to-day join hands, and conquer?

Hahnemann says, "to cure mildly, rapidly and permanently, thoose, in every case of disease, a medicine which can itself produce an affection similar to that sought to be cured." "A medicine which can itself produce an affection similar to that sought to be cured." That is Homeopathy in a nutshell! And how much nearer is it possible to go, in following Hahnemann, than with the toxins of the disease itself—perhaps preferably prepared from the patient's own disease, as nearest of all?—but rendered into "simillimum, not" idem," as Hahnemann quaintly puts it, when discussing Psorinum and the isopathic remedies (disease-products used to cure disease)—rendered into simillimum not idem

by trituration and potentisation. Or, as Hahnemann says again, "Isopathy administers only highly protentiated, and as it were, altered miasm to a patient." And surely Hahnemann was right?—they are no longer the same, only similars; for by trituration and shaking up in alcohol the organisms are killed, toxins are set free, and you are no longer dealing with tuberculosis or plague, but with the toxins of these diseases. For instance, when you grind up plague, and a man inhales the fine dust and perishes, he is dying of a like disease, simillimum not idem; for there are no organisms multiplying in his blood—or we may suppose not.

We who are homoeopaths, who deal with potencies, and have tasted power—the most intoxicating draught that life affords—must surely hanker after further power absolutely our own; for we are bound to remind ourselves and the world that here in disease products used scientifically for the cure of disease, according to the great law of healing...the Law of Similars, Hahnemann and his immediate followers were first in the field, half a century before Koch and his illustrious followers.

Had Hahnemann been with us to-day, he would undoubtedly have been first and foremost in the field of "nosodes"..." vaccines"...whatever you choose to call them. We know it, for he was already there some eighty-years ago, in the first volume of his Chronic Diseases. And the most enlightened of his disciples. following him, and preparing their drugs safely and potently, as he directed, have each time been first, with Hydrophobinum (or Lyssin), with Anthracinum, with Tuberculinum, (which they afterwards called Baccillinum), Variolinum, Vaccininum, Malandrinum, Syphilinum, Gonorrhinum (or Medorrhinum), Hippozænium, and a host of others. Lux, Hahnemann, Hering, Swan, Burnett, Heath, were always years ahead, sometimes half a century, of Pasteur, Koch and Wright; and were curing safely all the time; while allopathy, in rediscovering Homeopathy, and adopting it without a care for its methods and deep knowledge. has strewed the earth with victims all along the line.

It was in 1831 that Hering suggested the prevention and

cure of hydrophobia and variola by the proving of their morbific poisons; and in 1833 he introduced *Lyssin* prepared from the saliva of a mad dog. It is a curious fact, that radiant heat, also proposed by Hearing for the cure of bacterial diseases, should also have been discovered by Pasteur. One wonders whether Pasteur's first inspiration came from Constantine Hering.

Anthracinum seems to have been next in the field, prepared from the spleen of animals affected with anthrax by Dr. Weber (according to Hearing's propositions which appeared in Stapf's Archives in 1830). In 1836 Weber published a treatise in Leipsic on cattle plague treated by Anthracinum...also of men similarly affected; in which he claims to have cured every case. Others followed him. But the matter was severely ignored by all but the homeopaths.

Swan introduced Gonorrhinum and Syphilinum; he published the provings of the latter in 1880. His Morbific Products was published in 1886.

Burnett learnt to administer the virus of disease therapeutically from Dr. Skinner in 1876. His "Eight Years' Experience with Bacillinum" was published in 1894 (his first edition, of five years' experience in 1890). And in that book he writes already, "There are but few viruses known to science that I have not used as therapeutic agents." Those who have studied his books know to what effect he used them. I gather that Koch's claims, in one nosode only, date from about 1890, the time when Burnett published " Five Years' Experience with Bacillinum, the new cure of Consumption," and fifty years later than Hering's great departure. And though many Homeopaths have decried and repudiated and loathed these powerful medicinal agents, leaving them, time and again, almost unmentioned in otherwise invaluable treatises-such as Farrington's Clinical Materia Medica, our most enlightened men have been quietly using them, and scoring heavily by their use, from the very first.

For whether bacteria are the cause or the consequence, or the constant accompaniment of the diseases with which they are

associated,—whether the important factor is the virulence of the germ, or the lowered resistance of the patient—or perhaps his forefathers; or an equation drawn from those factors—and others; there is no question as to the fact that disease products are the most powerful weapons we possess in combating disease; and that they are pure Homæopathy, whoever uses them, however prepared and under what name. And it is only by their homæopathicity that they do cure (like all other homæopathic remedies) by stimulating the resisting powers of the patient.

So that the only question—and it is a wide one—is how best, and how most safely, to use them.

Now it was my little paper on Burnett, five years ago, that first introduced Nosodes into the sphere of practical politics at the London Homocopathic Hospital. I was then told by men who are ready enough to inject them now in bulk, and to suffer them injected, that they were filthy things, even in the 200th potency; things that they would not swallow themselves, and therefore would not give to their patients.

That phase has happily passed; events have marched rapidly in the last five years. Nosodes have been swallowed, and continue to prove their usefulness; not superseding other homeopathic remedies, but stepping into the breach where they alone are truly homeopathic, and where they alone can supply the whole depth of homeopathicity. But now even the nosodes are being set aside and superseded by "vaccines," preparations by more scientific men (as we reckon)—men more up-to-date in modern technique, at any rate; for the most advanced modern science is only just beginning to make Hahnemann scientific!—Hahnemann, who lived a century before his time.

So once again I must raise my voice to plead for the homeopathic preparation of disease-products; in high or low potency according to the urgency of the case; but given by the month. Think! in all the years that we have used these terrible remedies we have had no victims! Surely that speaks vastly for the system of Hahnemann? Can those scientists who have rediscovered Homeopathy, and who seek to apply it without its

laws, its methods, its safeguards, its philosophy, say as much? Think of their victims! and the tale is not full!—the slaughter is only begining! By all means let our nosodes (or whatever you choose to call them) be prepared in the most scientific way, by the most scientific men, and subjected to every scientific test that can be devised; but, for Heaven's sake, don't let us kill off our whole laboratory staff every time we open the grinding machine; even to re-prove Hahnemann's great discovery of the development of power by trituration, and to point his dictum as to the danger of prolonged trituration; and in his day that was, of course, only done by hand!—dangerous if prolonged beyond one to three hours, he says!

Again, by the homoeopathic method of preparing and administering drugs, you absolutely eliminate another great danger—the laboratory boy. A little carelessness somewhere has meant the death of persons by the dozen, and that more than once, in India and America; and these not sick persons either, mind you; but healthy persons, merely afraid of sickness who might never have become sick, or becoming sick, would certainly not all have died. It is a terrible thing to kill healthy children or men, in order to pevent them from becoming ill; it is a pretty drastic measure, anyway: if the only sure one! I should be in favour, in such cases, of hanging the doctor as well as the laboratory boy. If this were done once or twice homoeopathic methods would begin to boom, and speedily become quite the rage in our profession.

Gentlemen, I thank you for listening so patiently I have delivered my soul.—The Homeopathic World, March, 1913.

EDITOR'S NOTES.

An Indian Medical Service Centenarian.

Surgeon-Major Henry Benjamin Hinton, late of the Indian Medical Staff, has just celebrated the anniversary of his 100th birthday. He is probably the oldest living active service veteran officer in the British Empire, and also the oldest member of the medical profession in the world. Major Hinton was born at Portsmouth on March 7th 1813, and entered the Bengal Service in 1839. His active military service dates back to the Maharatta War of 1843. Major Hinton is the oldest living member of the British Medical Association and of the Royal College of Surgeons of England.—The Lancet, March 22, 1913.

Calcutta Eating-houses.

The necessity for the inspection of eating-houses in Calcutta has recently been considered by the Health Special Committee, which has decided to place the matter before the corporation and to make several important recommendations for the protection of the public. The committee is of opinion that all eating-houses, restaurants, hotels, messes, and similar places to which the public have access, as well as the kitchens in which the food is prepared, should be open to inspection at all times, by night and day, by officers of the Health Department, and shall be kept in a sanitary condition. The health officer is to be asked to draw up regulations for the licensing of such places and for their general cleanliness, and arrangements are to be made for the imposition of heavy penalties upon those who neglect the rules.—The Lancet, March 22, 1913

An early Symptom of Extra Uterine Pregnancy.

Solowy says the symptoms of an early unruptured tubal pregnancy are mostly so insignificant that they may clude the attention of even skilled gynecologists. In the very beginning of such a case it may be possible to feel a very small undefined resistance at the side of the uterus which may simulate an inflammatory aductal tumor. The menstrual period may have been absent or not, and often there is an intermittent or continuous sanguinous discharge from the uterus. If in this decidual fragments are found there is no doubt in the diagnosis, especially when associated with periodic contracting pains in the tubes. But these symptoms are often absent, and the diagnosis

is only recognized on the occurrence of internal hemorrhage from tubal abortion or rupture. The author then calls attention to an early symptom, namely an indefinite doughy resistance in the posterior cul-de-sac. He recites two cases. In one this doughy feeling was caused by a collection of blood and the attachment of the pregnant tube to the rectum. In the other case the symptom was produced by an attachment of the omentum to the pregnant tube and the posterior uterine wall, where also a small collection of blood had formed. Of course this sign, to possess full value, must be found present, after the cul-de-sac had been found empty a few days before.—The New England Medical Gazette, March, 1913.

Chronic Manganese poisoning.

In the Journal of the American Medical Association of March 1st Dr. Louis Casamajor contributes a preliminary account of a syndrome which he ascribes to chronic industrial intoxication by manganese. He has seen nine patients, workers in the separating mill of a large mine, the chief product of which is zinc. Throughout this mill the air is laden with a fine grey dust, consisting of ore which contains zinc and manganese, with a negligible fraction of lead. The symptoms, which are ascribed by Dr. Casamajor to absorption of manganese through the alimentary tract, are somewhat like those of paralysis agitans; there is a similar disturbance of gait, which the patient first discovers as an inability to walk downhill slowly. The mask-like expression of face has also been noticed; the legs feel weak and shaky, there is a fine static tremor of the hands and tongue, but muscular power is well preserved and the reflexes are unaltered. There are no sensory changes, apart from deafness which is not aural in origin, and the mind shows no definite evidence of deterioration. It is the gait that is most profoundly affected, and it is noteworthy that retropulsion occurs as well as propulsion; the patient cannot walk backward, for as soon as he tries to do so he falls backward or sits down. There are no blood changes, the cerebro-spinal fluid is normal, and the Wassermann test is negative. In the urine distinct traces of zinc and manganese have been dis-Dr. Casamajor gives reasons for attributing the symptoms to poisoning by manganese and not zinc. One of these is that zinc has never been proved responsible for systemic poisoning, and the other, that certain cases of a closely similar type have been reported among other manganese workers. He promises a fuller account of his investigations including a record of post-mortem findings, and the subject should prove important and interesting, since it promises to add one more to the ever-lengthening list of preventable diseases.—The Lancet, April 5, 1913.

Medical Examinations in Switzerland.

The regulations for the Swiss medical examinations of 1877 and 1886 have been completely revised. The new regulations, dated Nov. 29th, 1912, come into force for the first time this spring. The examinations still take place at the principal university towns-Basel, Berne, Geneva Lausanne, and Zurich-and are conducted in German or French (Lausanne and Geneva). (The innovations in the new regulations are marked in italics.) Only persons who have passed the Swiss Matriculation Examination are admitted to the three medical examinations—first, second, and final. The successful passing of the final examination provides the candidate with a Swiss Federal diploma and admits him to practise in any canton of The M.D. examination is separate, and has solely an Switzerland. The first medical examination is academical or scientific value. oral and deals with four subjects-viz, physics, organic and inorganic chemistry, botany, and zoology. (Foreigners with recognised diplomas can be exempted from this examination.) The subjects of the second examination are anatomy, histology, embryology, and physiology, and it is partly practical (dissection), partly oral, and partly written. Admission to the final examination is granted after 11 half-yearly terms of study, six of which must be spent in Switzerland. One-half year's attendance at a recognised hospital can replace onehalf yearly term of study. The candidate must give proof of having attended the medical, surgical, and obstetric cliniques for two terms; the children's and ophthalmological cliniques, the medical and surgical out-patient department, the mental hospital, and the oto-laryngeal clinique for one term. The candidate, in addition, must pass practical and theoretical examinations, the latter both oral and written, in the following subjects; pathological anatomy, internal medicine, surgery, obstetrics and gynecology, ophthalmology, pædiatrics, dermatology and neurology, mental diseases, hygiene and legal medicine. is also an oral examination in the surgery of accidents (Unfallkunds) and materia medica. For written examinations four hours are allowed; the spoken examinations generally last half an hour for each candidate.—The Lancet, April 12, 1913.

The Signs of Overdosage in Digitalis Administration.

- W. A. Bastedo, of New York, prefaces his paper with the remark that digitalis poisoning is almost invariably the result of overdosage in its administration for therapeutic purposes. Some of the symptoms formerly attributed to the disease of the heart we now know are really manifestations of the toxic action of the digitalis given as a remedy. As a rule the undesirable effects are obviously Semetimes there is uncertainty, until we note the due to the drug. disappearance of the manifestation shortly after the digitalis is stopped, and its reappearance under further administration of the drug. But it must be remembered that the toxic effect may be quite persistent, the drug action continuing in some cases for as much as three weeks after a single intravenous dose. Bastedo has observed permistence of partial heart block for three and one-half weeks after the stoppage of digitalis, and of complete block for one week. Cushny has reported a case of auricular fibrillation in which through the influence of digitalis "inhibition had gained a permanent control over the heart," so that the effect persisted indefinitely after the drug was stopped, or was perpetuated by an occasional dose. Bastedo thinks from his experience that such an effect in auricular fibrillation is not uncommon. Bastedo's paper is a very thorough one which should be read by all who are interested in heart work, which means practically everyone. He concludes his article with dictum that the margin of safety with digitalis is fortunately a large one, so that there is no undue danger in the use of even large doses by mouth or hypodermatically if the administration is stopped when one of the following conditions arises, viz.:
 - 1. Nausea is marked.
- 2. The radial pulse goes below 60. The pulse may become progressively slower for a few days after the drug is stopped, hence the necessity for ceasing its administration before the slowing has become extreme.
- 3. A rapid ventricle with rate unaffected by digitalis for several days suddenly becomes slower (heart block).
- 4. A regular ventricular rhythm changes to irregular, as from premature beats or the development of auricular fibrillation; or becomes intermittent, as from partial heart block.
 - 5. Paroxysmal tachycardia occurs.
- 6, The absolutely irregular rhythm of auricular fibrillation becomes slow and regular, (complete heart block), or shows coupled rhythm or phasic arrhythmia.

Finally, Bastedo says that considerable risk may be avoided by restraining from the use of digitalis (a) when the ventricle is intermitting, (b) when there are premature beats, or (c) when there is bradycardia.—The *Medical Times*, April, 1913.

The Oyster supply.

Some interesting facts connected with the ovster industry were brought forward at the annual general meeting of the Ovster Merchants and Planters' Association, held in the Fishmongers' Hall on March 31st. It will be learnt with some dismay by the oysterconsuming public that the supply of natives grows shorter year by year, and unless purely empirical methods of cultivation are soon given up in favour of scientific treatment the gourmet's favourite may disappear. This is a regrettable fact, and it is to be hoped that funds will soon be forthcoming and that Government help will be given in order that a comprehensive scheme of research into the conditions which affect the spatting, growth, and fattening of the oyster may soon be proceeded with. The question has been taken up in France in a thoroughgoing spirit, with the result that the oyster-industry there has been practically rehabilitated. is of considerable public importance, since the shell-fish industry of the United Kingdom represents an estimated capital value round the cost of from six to eight millions, which gives employment to a large number of men and supplies a dietic delicacy which many would be sorry to lose. Another menace to the prosperity of the industry is the alarming increase of American or "slipper" limpets, particularly in the oyster grounds and consume much of the food that otherwise would go towards "fattening" the native. To some extent this mischief is being reduced by giving rewards to dredgerman who bring " limpets, five fingers and mussels, and other vermin ashore for hard way making and other purposes." The industry, assisted by the Fishmongers' Company, has worked hard during recent years to remove the reproach against the oyster as a source of enteric disease, and great efforts have been made to keep all beds clean and free from sewage-polluted water. Excellent progress has been achieved with the result that public confidence has been largely restored. The great mass of oysters now comes from beds of certified purity, but the system of inspection needs The Oyster Merchants and Planters' Association has requested the Board of Agriculture and Fisheries and the Local

Government Board to see that no time be wasted in getting through a rivers pollution Bill which shall safeguard the public and protect the interests of the industry. They accept the recommendations of the Royal Commission on Sewage Disposal, which provided that control in all questions affecting our rivers and estuaries should be vested in river boards, with a controlling authority with power to take action to prevent the pollution of the waters. In short, the attitude of the shell-fish industry in regard to sanitary considerations is admirable, and it would be a great misfortune, now that the importance of these considerations is being realised and acted upon, if the prosperity of the industry should suffer through the neglect to make a systematic scientific study of the conditionsunder which the best oyster can be produced and the yield increased. There are few persons, we imagine, who do not want the supply of oysters to be pure, plentiful, and cheap. They are a valuable food. -The Lancet, April 5, 1913.

Gleanings from Contemporary Literature.

SOME CLINICAL OBSERVATIONS ON CACTUS, CRATAEGUS AND THE IODIDE OF ARSENIC IN THE TREATMENT OF DISEASES OF THE HEART

By G. HARLAN WELLS, M.D., Philadelphia.

(From the Hahnemannian Monthly)

The treatment of patients suffering from diseases of the heart occupies an increasing portion of the time and thought of the general practitioner of medicine and of the internist. The increase in the number of persons suffering from circulatory affections cannot be traced to the acute infectious diseases, which are markedly on the decline, but in my opinion is the result of modern methods of living and working. The up-to-date business man seldom rests. From the time he leaves his home in the morning until he retires to bed at night his mind and body are subjected to constant activity and strain. Periods of relaxation or of repose are not to be thought of, and as a result a severe tax is placed upon the nervous and circulatory symptoms. Hence the "successful" American business man at forty-five with his nervous break-down, his chronic Bright's disease, or his degenerated heart and arteries.

The era of hopeless prognostications regarding patients suffering from diseases of the heart is fortunately passing away. Inaugurated by the postmortem pathologists, who pointed to a distorted valve or a sport of degenerated heart muscle and defied the physicians to restore them to their original state, this era of pessimism and of therapeutic nihilism held absolute sway among the dominant school of medicine for more than a decade, and few practitioners of any school dared to speak positively of the therapeutic value of drugs in the treatment of cardiac diseases without fear of being accused of exaggeration or of unscientific observations.

Fortunately for the medical profession recent physiological researchers have revealed the marvelous reparative powers of the human heart, and have demonstrated that even in the presence of a distorted valve the heart may maintain a normal circulation, and that, while we cannot replace a degenerated bit of muscle fiber in the heart, we can so improve the efficiency of the remaining muscular tissues that the weakness of a portion can be completely compensated for. In other words, by proper therapeutic measures the heart may be put in such condition that it is able to maintain a normal circulation, and thus perform the function for which it was intended. The fact that a trill or murmur may be produced in the performance of this function is of little consequence to the patient.

A study of the physiology of the heart shows that the most important factors in the maintenance of a moral circulation as far as the heart is

concerned are the nervous mechanism of the heart and the tone and power of its muscular tissue. As Stokes, and more recently Barker, of your own city, have pointed out, the maintenance of the tone and power of the heart muscles is the very essence of cardiac therapy. Any agency, therefore, that is capable of exerting a regulating influence upon the nervous mechanism of the heart, or of improving the nutrition and power of the heart muscles, may be reasonably expected to prove of therapeutic value in assisting a disturbed heart to perform its function normally and satisfactorily.

I have made the foregoing remarks for the purpose of showing that the beneficial results which clinical experience has demonstrated follow the administration of properly selected remedies in the treatment of diseases of the heart are not out of accord with the results of recent scientific research.

CACTUS GRANDIFLORUS. The first remedy to which I wish to refer is cactus grandiflorus. There has been a good deal of dispute of late among pharmacologists as to whether or not this drug exerts any physiological effect upon the heart or vascular system. With this, however, we are not chiefly concerned. What we, as physicians, want to know is whether patients suffering from cardiac diseases are benefited by the administration of this remedy. Clinical observations in numerous cases that were followed over a period of several years compels me to believe that it does produce positive therapeutic effects.

The value of cactus as a cardiac remedy was forcibly brought to my attention by the late Dr. E. R. Snader, whose experience with it was very extensive. I have had the opportunity to examine many cases that were under Dr. Snader's care, to whom this remedy was administered, and for the past six years have used the drug very extensively in my own practice. My observations lead me to believe that the drug is of decided therapeutic value only in the following conditions:

First—Nervous affections of the heart, whether they are the result of overwork, worry or mental disturbances. The heart is irregular in rhythm, and its rate varies under the slightest mental or physical disturbance. A number of sensory disturbances are frequently present; the sensation of a constricting band around the heart being a well known indication for the use of cactus. It is a mistake to believe, however, that cactus is only useful when this symptom is present. More common still in the cactus cases there will be pricking and shooting pains in the precordial region associated with tenderness to pressure in the intercostal spaces of the third, fourth and fifth ribs. Pain of this nature is frequently believed to be due to angina pectoris, but such is rarely the case. It is usually the result of disturbances in the intercostal nerver supplying the precordial region, and I agree with McKenzie in the view that it is the result of a viscero-sensory reflex, indicative of fatigue of the heart muscle. Fluttering or palpitation of the heart, aggravated by mental excitement or

or when lying on the left side, is another symptom frequently present. Numbress of the left arm is another condition that I have frequently found to be quickly relieved by the administration of cactus.

Second—Mild degrees of cardiac insufficiency, especially when the result of rheumatic endocarditis. In such conditions, particularly if associated with the accompanying sensory disturbance referred to above, cactus combined with the proper amount of rest, is a much safer and more efficient remedy than digitalis. In this group of cases there is usually some oppression of the chest and difficulty in breathing, but not the marked dyspnosa and general dropsical condition commonly found where digitalis is indicated.

Case 1. Cardiac neurosis. Paroxysmal tachycardia, Miss K., aged twenty-five, German descent. Occupation, housework. The patient at the time of my examination was in good general health and had never suffered from any serious illness.

For the past six months she had suffered from sovere attacks of tachycardia. These attacks would come on suddenly and would be accompanied by a severe throbbing sensation in the heart and a feeling as though the heart would burst. The pulse rate varied from 180 to 200 per minute; the attack would last from one-half to one hour and would leave the patient weak for several days. In the intervals between the attacks the patient suffered from pricking and burning pains in the region of the heart and said the heart felt as though it were sore. The attack seemed to be induced by any nervous or mental excitement. Gelsemium 1x gave prompt relief during the attacks but had no effect in diminishing their frequency. I then prescribed the tincture of cactus, five drops four times a day, to be taken between the attacks. After this remedy was started the patient had one attack which was quite mild. For the past eighteen months she has had no further attacks and the pulse is perfectly normal in its rate and rhythm at all times.

Case 2. Organic heart disease.—Mitral regurgitation. Mrs. J., age forty-two. The patient was in good health until eight years ago when she had an attack of rhoumatic fever which was followed by acute endo-carditis. When the endocarditis subsided the patient was found to be suffering from mitral regurgitation. For four or five years she suffered almost continually with a sensation of soreness in the precordial region which at times became aggravated and gave rise to sharp, stinging pains—on the least exertion. There was marked shortness of breath and considerable debility and the patient was unable to attend to any duties in her home. She was prescribed for a number of times by an old-school physician who gave her iron, arsenic, strychnine and other tonics but she made little or no improvement.

In March, 1909, she came under my observation and her condition was one of semi-invalidism. The sphygmographic tracing of the pulse showed it to be irregular as well as weak and rapid. Cactos tincture, five drops four times a day was prescribed and continued for twelve months. At the end of that time the patient was materially improved both as regards her cardiac condition and her constitutional state. The pulse had become regular in rate and rhythm; the shortness of breath had cleared up almost entirely and the patient had gained twelve pounds in weight.

I had occasion to examine her a few weeks ago and she claims that she feels better than she has felt for many years. She has taken the cactus at intervals during the past two years when any discomfort was felt in the region of the heart or signs of returning debility were present. Cactus is a remedy that should be administered for a long period of time in order to obtain lasting results. It is not a rapid cardiac stimulant, but a mild tonic to the muscular and nervous mechanism of the heart. I have seen it taken for a period of many months almost constantly with the most favorable results, especially in people past middle life who suffer from impaired circulatory power the result of valvular heart disease following infectious diseases in earlier life. My experience has been almost entirely with the tincture, which I administer in doses of five to ten drops three or four times a day.

CRATAEGUS OXYCANTHUS. This, remedy is one that has received very little attention in homosopathic literature, and yet it has an important place in the treatment of both functional and organic diseases of the heart. Few provings have been made on healthy subjects, and most of the indications are clinical ones. The best effects from crataegus are obtained in cases of rapid heart of nervous origin, in mild degrees of dilation, and in the earlier stages of myocardial degeneration. Irregularity of the heart is invariably present when crataegus is indicated; and a symptom that I have seen verified in several cases in a painful sensation of pressure in the left side of the chest below the cla icie. In one case in which this symptom was so marked as to suggest the probability of an aneurism, crataegus gave prompt and permanent relief. Shortness of breath on exertion and marked mental and physical fatigue are also present. Oedema of the lower extremities may be present, but is usually moderate in amounts Ellingwood has reported its favorable influences in cases of valvular diseases with slight dilation, and in cases of arterio sclerosis with beginning dropsy. In augina pectoris with nortic regurgitation it has proven a most efficient remedy. He further states that it is sometimes efficient in relieving painful affections of the heart where cactus fails. This statement I can verify from my own experience in a number of cases.

To sum up, the important subjective symptoms calling for crataegus are rapid, irregular pulse accompanied by palpitation and extreme mental and physical weakness on exertion; in conjunction with this are painful sensations in the region of the heart, and particularly a painful feeling of pressure below the left clavicle. I usually employ this remedy in five drop doses of the tincture three or four times a day.

Case 1. Cardiac neurosis. Palpitation. Mr. S. Age thirty two. Has usually been in good health, his only illness being scarlet fever at ten years of age. For the past two or three years has felt very nervous and cirritable. Recently he has noticed considerable lassitude and weakness with a jerking sensation in the region of the heart. The heart feels as though it would jump out of his chest. The patient's hand and feet are cold and he suffers from vertigo after exertion. The jerking and jumping sensation in the heart has caused him a great deal of anxiety and states that he is unable to sleep or work on account of the mental and physical distress resulting from it.

Examination showed the heart to be irregular in action and rapid (100 per minute), and his weight to be 134 pounds. The patient had been under treatment for the previous two years with no improvement. Crataegus was prescribed in ten drop doses of the tincture three times a . day.

An examination one month later showed the heart to be regular in rate and rhythm, and the jerking and throbbing sensation in the region of the heart had entirely disappeared; the mental anxiety was much diminished. Two months later the patient said he considered himself entirely well. He had gained eleven pounds in weight, was sleeping and eating well and complained of no abnormal sensations in the region of the heart.

Case 2. Organic heart disease. Mitral stross and myocardial degeneration. Mr. S.—Health good until twenty-three years of age, when he had typhoid fever from which he made an apparently good recovery.

About three years ago began to notice that he was losing his strength; would become exhausted after very slight exertion. He also stated that he would grow short of breath, at first, on going up stairs, but later on walking on the level. A physical examination showed the heart to be enlarged one inch beyond the mammary line and auscalation revealed a presystolic mammar at the mitral area accompanied by a decided thrill. The pulse was irregular in rate and in force. Its rate was 96.

When the patient came under my observation, in addition to marked lassitude and shortness of breath; on the least exertion, he complained of a feeting of fullness in the region of the heart accompanied by a sensation of pain which was not; severe but rather dull and constant. This pain was worse after eating.

He had; been under old-school treatment for several months and had received principally digitalis, which was productive of no improvement. I prescribed tincture of cratagus, ten drops three times a day and advised the patient to rest in bed until his condition improved. This he refused to do but continued his work which was of a clerical nature. Nevertheless he showed decided improvement and after six weeks' treatment his pulse became normal in rate and much improved in force and regularity.

The patient continued to improve and at the end of six months had regained a fairly comfortable state of health.

Against my advice he discontinued treatment and I did not see him again for almost a year. He then came to my office suffering from a severe attack of bronchitis with marked dyspnoea and cyanosis. He stated that he had contracted bronchitis four weeks before and had been under old-school treatment, receiving expectorants and digitalis. His condition was quite serious and I urged him to go to bed until the compensation of his heart could be restored. This he again refused to do and the following day developed an infarct in the right lung; this was followed by an embolus in the brain from which he died two days later.

IDDIDE OF ARSENIC. There are few remedies that have a wider range of applicability in chronic cardiac diseases than the iodide of arsenic. Its value lies in its power of modifying the nutrition of the individual cells, and to its ability to improve the nutrition of the heart muscle. The cases in which it may be used with benefit therapeutically may be conveniently considered under the following headings:

First—Functional disturbances of the heart, the result of anemia and general debility. These conditions are frequently met with in young women, and in individuals recovering from acute infectious diseases. The patient is pale, poorly nourished, thin, and tires easily on exertion. Subjective symptoms, as far as the heart is concerned, are comparatively few,—the most common being palpitation on exertion. On auscultation with the ear or stethoscope a soft, blowing murmur is frequently heard at the base of the heart, the result of loss of tone in the papillary muscles. In such conditions the administration of the iodide of arsenic, combined with fresh air and nutritious diet, is productive of immediate and striking results. The patient improves in weight and strength, the heart becomes slower in rate and the murmur entirely disappears. Another remedy of importance in similar conditions is iron.

Second—Chronic valvular affections of the heart which have led to hypertrophy and beginning dilatation.

It is a well known fact that the most serious results of chronic valvular affections are those resulting from impairment of the nutrition of the heart muscle. We should, therefore, be on the constant watch in patients with a compensated valvular lesion for the early signs of failing compensation. With the onset of these signs, namely: a general weakness and lassitude; shortness of breath, swelling of the feet, etc., the iodide of arsenic should always be thought of as a suitable remedy. The marked sensory disturbances that are present when cactus or crataegus are called for, are frequently absent. The constitutional symptoms are most important in guiding us to the selection of his remedy, namely: weakness, anemia, loss of weight and decided gastro-intestinal irritability.

Third—Chronic myocardial degeneration whether primary or secondary to valvular disease. In this very common and very serious disorder of

the heart the iodide of arsenic stands as our sheet anchor. It far surpasses digitalis in its utility in these cases provided marked rupture of compensation has not occurred. The patient in which its typical indications are present is thin and emaciated in spite of good food and care, and impresses us as being worried and prematurely aged. The pulse is weak and irregular, and the arteries are frequently thickened by the formation of fibrous tissue. Examination of the heart usually shows some enlargement with a weakening of the muscular element at the apex. The circulation in the extremities is poor, hands and feet are cold, and the patient tires readily on exertion. Oedema may be present, but is usually not marked. The power of the iodide of arsenic to prevent the progress of the degenertive process and add to the comfort and life of these patients cannot be doubted by any one who will give it a fair trial. I usually employ it in the second decimal or third decimal trituration, giving one grain three or four times a day for one month and then discontinuing for two weeks. and repeating another month.

If we are to obtain the best results from the iodide of arsenic I believe that the method of preparation is of importance. As ordinarily prepared by homogopathic pharmacists the iodide of arsenic is mixed with sugar of milk and triturated in an open mortar for four hours for the first trituration, and two hours each for each succeeding trituration. of you who have made a study of this substance know that the iodine is in rather loose combination with the arsenic, and under the influence of trituration when exposed to the open air the iodine is readily liberated and the arsenic is left behind. For the past three years I have abandoned the use of triturations of iodide of arsenic made in this way, and my results under the method which I now employ have been so far superior to those formerly obtained that I desire to commend it to your consideration. I direct the pharmacist to add one part of Merck's chemically pure iodide of arsenic to nine parts of sugar of milk, and triturate in a mortar in a somewhat darkened room for ten to fifteen minutes. From this the second decimal trituration is prepared by adding the proper quantity of sugar of milk and triturating for fifteen more minutes. The trituration is then put in gelatine capsules and kept in a dark glass bottle away from the light. I have used black capsules at times, but find the ordinary gelatine capsules kept in a dark bottle answer the purpose just as well. Prepared in this way the drug is thoroughly mixed with the sugar of milk, and yet is not triturated long enough to lose its proper proportion of iodine.

Case 1. Organic Heart disease. Mitral regurgitation with dilatation of the heart. Miss W. Age twenty. Six months ago suffered from a mild attack of rheumatic fever after which she returned to school and climbed up several flights of stairs daily. After a period of two months she began to grow very short of breath and became markedly debilitated, A physician was called (old-school) and treated her for several months, but her condition remained the same.

On my first examination of this patient, I found her sitting in a chair very short of breath and markedly emaciated; her pulse was irregular and rapid (110 per minute). The feet were oedematous and an examination of the heart revealed loud murmur at, the apex systolic in time, transmitted into the axilla; the heart was enlarged one inch and a half beyond the mammary line. The patient was put to bed and digitalis was prescribed in ten drop doses of the tincture four times a day. This failed to give her any relief and after ten days it was discontinued and the patient was put on stropanthus. This remedy acted favorably almost at once and at the end of ten weeks the patient was able to sit up. She was much improved but still in a very weak and debilitated condition. The, remedy was continued for a reasonable time, but while the heart remained fairly good and the oedema entirely disappeared, the general condition of the patient remained very unsatisfactory.

On account of the weekness, anaemia and emaciation, together with the poor state of the heart muscle. I prescribed the iodide of arsenic 2x. one grain four times a day. In addition the patient was given three eggs and a moderate amount of milk daily in addition to her regular diet. From that time improvement was gradual but steady and six months later the patient was able to resume her ordinary duties and was free from any discomfort except some shortness of breath on exertions.

I had occasion to examine this patient four years later and, with the exception of the murmur which is still present, found her to be in excellent health. She has gained about twenty pound and takes charge of the work in her home without any discomfort whatever.

Case 2. Organic heart disease. Myocardial degeneration. Arterial sclerosis. Miss S. Age 75. This patient came under my observation four years ago and complained of great weakness which made it very difficult for her to walk; shortness of breath and ædema of the lower extremities extending up to the knees. The heart was rapid and the sounds were very weak. The arteries were thickened by the deposit of fibrous tissue. I gave a bad prognosis and advised that the patient be put to bed. She refused to consent to this part of the treatment. I prescribed iodide of arsenic, 2x trituration, one grain every three hours. Very much to my surprise she began to improve and by the end of four weeks the oedema had entirely disappeared and her general strength was much better.

This patient is still living and when I had an opportunity to examine her a few days ago, I found her free from oedema and quite comfortable in every way except for the weekness incident to her age. The heart was somewhat rapid but regular and she is able to do a considerable amount of walking without any special discomfort. The arterial sclerosis and the degeneration of the heart muscle of course persist, but I believe that the use of the remedy has prolonged her life.

In closing this rather fragmentary paper I desire to state that my

purpose in preparing it has been to call your attention to the following conclusions:

First. That recent investigations in physiology of the heart have shown that there is much room for optimism in the treatment of cardiac diseases.

Second. That in the homosopathic materia medica we have a number of remedies, three of which I have just cited, that are of unquestionable value in modifying favorably the nervous and muscular structure of the heart.

Third. That the practical results of the administration of these remedies in patients suffering from cardiac affections show that they are capable of producing a complete cure in functional disorders of the heart, of restoring to a life of comfort and usefulness patients suffering from milder degrees of cardiac insufficiency, and of adding to the comfort and longevity of patients affected with the more serious forms of cardiac disease.—The North American Journal of Homeopathy March, 1913.

DUODENAL ULCER.

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(Continued from p. 179, April, 1913.)

HOMEOPATHIC THERAPEUSIS.

I come now to the homoeopathic treatment of duodenal ulcer. The earlier the stage at which this is begun, the better. "Hyperchlorhydria" by itself presents a definite group of symptoms, that can be very fairly matched by drug-symptoms, and the abortion of "hyperchlorhydria" will in very many cases at least, be the prevention of duodenal ulcer. The earlier stages of actual ulceration, and even very often the later, will still be well treated by these "hyperchlorhydric" remedies; for the "hyperchlorhydric" symptoms continue to be the most prominent. But here we have drugs that correspond, even in a crude pathological way, to gastroduodenal peptic ulceration, such as kali bich, and uranium nitricum. Prescribing mainly by symptoms we are not specially concerned to know at what precise stage a so-called functional hyperchlorhydria passes into duodenal ulcer. Let us consider what drugs are most likely to be suitable to that symptom-complex which we have learnt to associate with duodenal ulcer.

A very marked feature of symptomatology is the long interval that separates the taking of food from the feeling of pain. Pain several hours after food is found under several drugs, such as agaricus, anacardium, graphites, nux vom., puls., petroleum, chelidonium. The stomach symptoms of agaricus, however, are not well marked. Puls. belongs to a different type of patient, not the strenuous and self-indulgent type; its pain. also, more often comes on soon after a meal, and is very likely to be accompanied by vomiting. Petroleum is so strongly marked as a vomiting remedy that it would hardly be prescribed for ulceration in which vomiting was not very prominent. The exclusion of these three drugs leaves us with anacard, graph, chelid, and nux vom. There are a good many other drugs that might be called for under special circumstances, and particularly if those that I have named should fail. Uranium nitricum, for instance. has been shown by the late Dr. Edward Blake to produce duodenal ulcer in rabbits and tomcats, and its pains are, aggravated by fasting. In a case of duodenal ulcer that came under my notice a little while ago uranium nitricum did much good, but it is an insufficiently proved drug. Hydrocyanic acid has a marked sinking at the pit of the stomach and a gastralgia which is worse when the stomach is empty and relieved by food. Oxalic acid has a burning pain relieved by eating and is very sensitive to the touch; it is also characterized markedly by periodical remissions: the pain is in 'spots, and there is a strong nervous element in the whole drug. Oxalic acid acted well in one of the cases that I have recorded, but again it is not a well proved drug. Lactic acid was used with very great effect by Dr. MacNish in a case of marked hyperchlorhydria to which

I have already referred. It has amongst its symptoms water brash, hot acid eructations and nausea, relieved by eating.

Arsenicum album might be called for as it has ulceration and burning very markedly. Affecting the whole alimentary tract, it will affect the But the picture of arsenicum is more like that of gastric ulcer than of duodenal ulcer. Vomiting is very marked indeed, and pain is felt soon after food. Kali bich., though it produces the punchedout peptic ulcer, and is said to be suitable to the duodenal ulcer that follows burns, has symptoms coming on soon after food, and again would be more suitable to gastric than to duodenal ulcer. The same might be said of arg. nit. A drug that may sometimes be thought of is china. It has several points that make it akin to duodenal ulcer or to those gastralgic conditions that may precede the actual formation of ulcer. Thus, it has a hungry longing for food, a very marked flatulence, with spasmodic pain relieved by bending double, pain in the right hypochondrium, gastro-duodenal catarrh, a great sensitiveness to cold air, a marked periodicity, and lastly, a symptom not very rare in duodenal ulcer, sensitiveness to light pressure and relief from firm pressure. Hydrastis, with its tendency to catarrh and ulceration of the inucous membranes, and especially its gastro-duodenal catarrh, and constipation, may sometimes come in.

The four drugs, however, that seem to correspond best, superficially or deeply, to duodenal ulcer are nux vom., graph., anacardium and chelidonium.

Chelidonium is specially indicated where the ulcer is accompanied by a general duodenal catarrh which tracks up to the liver and causes jaundice and pale costive stools. In duodenal ulcer there is often a pain in the neighbour-hood of the inferior angle of the right scapula, and this is a strong mark of chelidonium. There is also distension and epigastric or right hypochondriac pain going through to the back and relieved by taking food and especially by drinking hot hauds. There is also the symptom "ailments brought on or renewed by change of weather." These symptoms are all closely related to duodenal ulcer. But I doubt if chelidonium goes deep enough, though it will certainly often relieve. One of the cases that I have related was relieved by chelidonium, but it was not until graph, was given that the patient was cured.

Anacardium is closely related to forms of nervous dyspepsia and gastralgia that are often the precursors of duodenal ulcer. It has distension and
eructations and above all things a "stomach" pain coming on a long time
after meals and relieved by eating. It also has constipation with inactive
bowels. I had a striking case in my out-patient clinic a few mouths ago
which Dr. Goldsbrough showed at one of his weekly demonstrations, in
which a patient who had long suffered from these symptoms was very
rapidly cured by anacardium. But again, it may be doubted whether
anacardium will always prove a sufficiently basic and fundamental drug
for our purposes.

We retreat then upon nux vom. and graph., with sulphur in the back-These profoundly acting polychrests are the most widely and universally useful remedies in duodenal ulcer and the conditions that lead up thereto. The average hyperchlorhydric calls out for nux vom. He is often the strenuous man of affairs, full of hurry and worry, a robustseeming man perhaps, given to appetite and indulging in stimulating food and often in an excess of alcohol and tobacco. He does not vomit as a rule, though he may desire to for the relief, but he gets pain, often a feeling merely of weight, but often, too, a crampy pain as of pyloric spasm, occurring a considerable time after food. There are better eructations. heartburn and constipation, and the patient is chilly and susceptible to cold changes of weather. On looking back upon the records of cases of Juodenal ulcer, cases not always at the time diagnosed as such, I find that the medicine most often used and most often successful has been nux von. This furnishes us with another illustration of the truth that nicety of diagnosis, however important, is by no means always necessary to effective medicinal treatment. Sulphur, an indispensable ally, is useful in helping forward the action of nux.

We come now to graph. Nux; on the whole, is suited rather to a thin person, but the graph, patient is fat, usually of fair complexion, and like the nux patient chilly and costive. Coming to more particular symptoms we find a burning pain in the stomach after meals which causes a feeling of hunger and is relieved by food. But hot drinks are not desired, and here is a point that might help us to distinguish graph, from chelidonium, which is greatly relieved by hot drinks. There are eructations and a painful sense of constriction from flatulence. Moreover, attacks of pain wake him in the night with a feeling that he must cat something. Symptoms relating to the stools and to the skin may come in to help us in the choice of graph. A case of mine, a chilly woman in whom the attacks were markedly induced by cold changes in the weather, received graph, and has remained exempt for a year.

For acidity depending upon hypersecretion (which, as we have already seen, is probably present in many cases of duodenal ulcer), Dr. Hughes thought calcarea the most useful medicine. Calc. hypophos. has amongst its symptoms "attacks of pain occurring two hours after meals, relieved by a cup of milk or light food," and this so tallies with the leading subjective sensations of duodenal ulcer that the medicine is quite worth, bearing in mind.

For emergencies of homorrhage Dr. Hughes specially recommended ipec, and ham. Phos, may also be extremely useful as an anti-homorrhagic, especially when given on its own particular indications. The emergency treatment of homorrhage on general lines has been given at an earlier stage of this lecture.

I cannot too strongly urge the treatment of the patient rather than of the patient's ulcer. It is because the patient is so much more than his

ulcer that it is, in my opinion, of subsidiary importance to know whether a particular drug has actually in its pathogenesy produced ulceration.

Our friends of the old school, in advocating the Lenhartz and similar diets, have realized that the general state of the patient's nutrition is what counts—another form of the same proposition. Lately they have been going even farther in the direction of truly scientific medicine, and are asking, like that able and philosophic physician, Dr. E. C. Hort, what is that deep-seated and fundamental dyscrasia in virtue of which people get ulceration of stomach and duodenum, in virtue of which one man's mucosa ulcerates whilst another's remains whole, in virtue of which, when one ulcer has healed or been excised, another often develops? "May not," Dr. Guthric Rankin asks ("Lecture on Duodenal Ulcer," British Medical Journal, July 23, 1910), "the ordinary duodenal ulcer turn out to be a mere local expression of some dyscrasia, gouty or other, and not a disease entity at all? From such a standpoint it is not surprising that duodenal ulcers tend to recur, nor that operation, even if temporarily ameliorative, is often inefficient as a measure of permanent cure."

Operation -- Operation is called for, of course, in perforation-imperatively. In severe recurrent hæmorrhage, uncontrolled by the ordinary methods, operation may have to be resorted to as a desperate expendient; in this case the ulcer is either excised or infolded. Where there are symptoms of obstinate obstruction, due to duodenal stricture, and of consequent gastric dilatation, the relief of a gastro-enterostomy will be required. This is the usual surgical procedure in chronic duodenal ulceration; by its means the gastric contents are drained off into the jejunum and the duodenal ulcer preserved from irritation. Many surgeons hold that the pylorus should be closed at the same time, others, as Moynihan, that the ulcer should be infolded. That is a matter that must be left to the surgeon. The question for the physician is what cases, other than perforation, incoercible hemorrhage and stricture, call for surgical aid? The demand of the surgeons, so confidently made nowadays, to take over all cases of duodenal ulcer is not one that can be listened to. Spriggs says "Provided that the patient is willing to submit to proper medical treatment and to rest in bed, duodenal ulcer is, in the large majority of cases, easily curable." To this I would add the further proviso that the patient be willing to keep up, for a year at least if not permanently, the anti-hyperchlorhydric regime that I have already mapped out. With the additional advantage of our homocopathic therapeusis we need not be over-ready to yield to the surgeon's excessive demands. I think we should be prepared to endorse Dr. Sprigg's somewhat caustic words when he says, "If those surgeons who advocate surgical treatment as a routine could do a year or two's work on the medical side of a hospital, they would learn that many cases get well as out-patients, and most of the remainder as in-patients, with rest and dietetic treatment." But there will always be a residue of patients who either cannot or will not follow a ragine, and of patients who, although obedient to instructions, nevertheless

rapidly and repeatedly relapse. These are cases that may be suitably handed over to the surgeon. A gastro-enterostomy will certainly in a very large number of cases relieve the symptoms. It will also often enable a patient to live a free-and-easy life as regards diet such as physician would not recommend; and it is to be remembered that these duodenal patients are often men with robust appetites and little selfrestraint. Whether that is really for his advantage is another matter.

Gastro-enterostomy is no more an infallible cure for duodenal ulcer than it is for fgastric ulcer. At a debate on the diagnosis and treatment of duodenal ulcer held at the Royal Society of Medicine in December, 1909, a well-known surgeon took his courage in both hands and declared (or is so reported) that gastro-enterostomy was the one and only treatment and was all sufficient. Two or three weeks later there appeared in the British Medical Journal an article by Dr. E. C. Hort, who has done a good deal of work in this connection, in which he said that during the preceding few months five cases of duodenal ulcer had been sent to him that had all been operated upon by surgeons of high repute and specially versed in recent developments of gastric and duodenal surgery. The results in these cases were of a most unfortunate character: most of them were distinctly worse. one or two very much worse, than they were before. During a discussion on duodenal ulcer at a meeting of the Edinburgh Medico-Chirurgical Society, already referred to, Dr. Dewar of Dunblane, who had himself been operated upon for duodenal ulcer, said that he had had two attacks of malæna since the operation. It is quite right to hand over obstinately refractory patients to the surgeon, but it is quite wrong to tell them that operation offers a certain cure.

One cannot help feeling, also, that some patients are operated upon who have no ulcer at all. Mr. Stiles, of Ediuburgh, himself an eminent surgeon, says that he has met with two cases of vicious circle which had resulted from operation for a duodenal ulcer that was not there!—The British Medical Journal. March, 1913.

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MENTAL DEVIATES.

BY FRANK C. RICHARDSON, M.D.

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I might preface what I have to say by quoting John

Taylor:—
"Tis a mad world (my masters) and in sadness
I travail'd madly in these dayes of madness."

The question of the insane has never been solved, although it has been with us a long time.

It is customary for the law and society to divide humanity into two groups, the group of reasonable beings and the group of those who have no reason; the group of those that do the locking up and the group of those who are locked up. The basis of differentiation between these two groups is not always clear. To the discriminating medical mind there would at times seem much truth in what Emily Dickinson says in one of her poems:

"Much madness is divinest sense
"To a discerning eye;
Much sense the starkest madness.
"Tis the majority
In this, as all, prevails.

Assent, and you are sane;
Demur, you're straightway dangerous,
And handled with a chain."

It is so simple, as Michel Corday has made one of his characters say "to put up a fence around an asylum and to announce 'On this side they are insane; and on that they are sane'."

In this ideally simple classification every thing is easy and is so convenient for the exercise of justice that most magistrates adopt it, or rather, would like to impose it upon physicians. Yes or no? Saue or insane?

On ther hand, an increasing number of thinkers hold the theory that there are neither sane nor insane people; there are only people who are more or less sane. It all becomes a question of degree. Mankind is graded in a long continuous series, in which it is impossible to draw a boundary line between the insane and those who are not so. "All the world's little queer, except thee and me,—and sometimes I think thee's a little queer," is a saying which is not infrequently brought to mind. This continuity, this lack of separation and sharp definition between a physiological state and a pathological state, is certainly much less crude and more scientific than the arbitrary division generally accepted.

There is no difference except that of degree between a dream and delusion. Everybody dreams more or less, and the delirious person is often only a dreamer who goes on with his dreams when he is wide awake.

Between calm, cold reason and a transport of passion, between originality and eccentricity, between nervousness and agitation between a person who is slightly touched and one who is demented, there are all degrees of transition, and it is impossible to say where insanity begins. A sharp line of demarcation would be arbitrary and false, and the borderland is passed with startling ease. It all depends upon the power of rectification.

. "A man corresponding to the ideal type of normal anatomy and physiology as well as perfect mentally does not really exist any-where," says Hericourt. "On the other hand, we all of us show some defects, some anomalies and some weak points."

And as Michel Corday says, "the greatest mental misery is only an exaggeration of all these little miseries." "Wait,"

cries Parrot, "look around you on all your little company. Do you not believe that all your comrades are more or less cracked?......Think of the slight knocks which would break their reason completely and make them totally insane.......It is only a question of degree."

Realization of our susceptibility in this "mad age" to the easy transition from a true to a distorted rectification of our fancies is rather disquieting and we may say with Don Quixote, the "Knight of mad illusions":-

> "Who has the right here, I ask you, to punish? Who dares place himself as the judge of another, Comparing his crimes and condemning his brother? From the voice of what altar, the power of what throne May a sinful man dare to condemn or condone? What heart is so pure as to be worthy this trust, What justice is God-like enough to be just?"

we may not arrogate to ourselves the ability to determine the mental norm, it is within the province of those having a physio-pathological knowledge of man to analyze his psychic functions as they would his motor and digestive functions and to determine, approximately at least, what in a given case constitutes abnormality.

I believe no one can go far with such analytical study without recognizing that between the sane-minded and entirely responsible on the one side and the entirely irresponsible insane on the other there lies a great region, a so-called borderland. peopled by individuals who have blemishes of various degrees and who in consequence have different degrees of responsibility.

Such individuals cannot properly be called degenerates because their unusual mentality may not involve depravity or retrogression implied by the term degeneracy. Neither should they be termed defective because rather than being deficient there mental endowment may transcend in excellence that of the average person. Yet their mental operations do not conform to the conventional idea of normal. Their reasoning faculty

is erratic or their conclusions faulty because of false premises. In short, they present a mental deviation from what is generally considered a normal invidual.

It is to these mental deviates, who can be treated neither as irresponsibly insane, nor as entirely rational and fully responsible beings, that I wish to call attention.

While the insane have their own place in the social order of things as it exists today, this is by no means true of the merely unbalanced, or, more technically, the mental deviates. Yet they are no less numerous and may be no less a bindrance. Everybody knows such people, but they have not yet been given a place in the social system. Moreover, they are as a rule misjudged. Some people treat them as poor unfortunate devils or cranks, or fools, paying no attention to anything they say or do, and while regarding them as harmless, allowing them no merit for their good deeds. Others regard all eccentric and slightly unbalanced people as irresponsible patients to be at least shunned and perhaps shut up.

One exaggeration is as bad as another. On the one hand we cannot deny the high social merits of certain individuals of this class, and we must beware of depriving society of all unbalanced geniuses. On the other hand, the fact must be recognized that the unbalanced are sometimes harmful characters that we should be able in some way to deter from misdeeds.

In what we have termed the mental deviate the whole of the mental organism is not atrophied, degenerated or diseased. There are inequalities in the development of his various psychic senses. Certain of them are weakened, and certain others may be more active, and even more brilliant and render more service to society than other more weighty and better balanced brains which are considered more normal.

It was semi-insanity that Anatole France wished a little grain of for those he loved; and Dryden said:—

"Great wits are sure to madness near allied, And thin partitions do their bounds divide."

In short, we must all acknowledge there are many to whom the aphorism "They are certainly cracked, but the crack lets in the light," might apply.

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History and literature as well as contemporary characters furnish countless examples of more or less serious defects in people of superior qualities.

Most fascinating and intensely interesting are the biographical anecdotes of men of genius which abound in expositions of most amazing temperamental vagaries of many of the world's famous characters.

For example, L. F. Lelut in a work entitled "Genius, Reason and Folly," written in 1855, tells of Socrates, "the wisest man," that he went into eestasies which were almost cataleptic fits. At table, or in the streets of Athens, or in the camps he would suddenly stop short without apparent motive. At other times in the occasion of a sneeze, either by himself or one of his neighbors, he would act, or would not act, according to whether the sneeze had taken place on his right hand or on his left. Socrates thus lived during his whole life, without doubt, a pronounced psychopath, but none the less the exponent of reason, philosophy and virtue.

Pascal had a psychopathic temperament and for a long time subject to hypochondriasis, hysterical palsies, hallucinations and ecstasies. From his earliest years he could not stand seeing water without falling into a perfect fit of passion. standing these evident neuropathic tendencies his mathematical genius astounded the world.

Tolstoi belongs to the category of psychopaths who are termed "originals." At eight years of age he was seized with an irresistible desire to fly in the air. This idea haunted him to such a degree that he decided to put it into practice. He shut himself up in his study room, climbed up to the window, made the movements for flying and jumped out. In his youth he never wanted to do anything that everybody else did, and he chose courses in the Oriental languages, only because everybody else preferred the law. One of his aunts wrote to him: "You have always wanted to be taken for an original being; but your originality is nothing more than an excessive selfesteem." Tolstoi's many eccentricities have been much exploited, but his genins has never been questioned.

Jean Jacques Rousseau had a neuropathic heredity. His father occasionally had ideas which "apparently emanated from the moon." Jean Jacques himself was successively clock-maker, mountebank, music-master, painter and servant, and then followed the paths of medicine, music, theology and botany. He used to meditate bareheaded in the sun at midday. He believed himself to be first the subject of everyboy's enthusiasm and then persecuted by the whole world.

Regis' conclusion to his very excellent study of Roussea is so characteristic of this type of mental deviate that I venture to quote:—"At that time he seemed to me," says Regis, "not only to be a great writer, but an exquisitely tender nature, a being essentially good and gentle, whose moral weaknesses arose from morbidness rather than from vice, and who owed to his hyper-sensitiveness not only the essentials of his neurotic vagaries, but his very talent itself."

Alfred de Musset was restless, visionary and subject to attacks of hysteria. He had colored audition. He related in one of his letters that he had been extremely annoyed while driving with his family, to be obliged to enter into a discussion to prove that fa was yellow and sol red, and that a soprano voice was blonde and a contralto voice was brunette. He believed that these things went without saying. It is related that when he desired especial inspiration he would write with his feet in a tub of ice water.

Napoleon suffered from a habitual twitching of the right shoulder and of the lips. He believed in presentiments and horoscopes, and sought and accepted the prophesises of any sorcerer who promised him good fortune. He was in despair when he broke a mirror; he was in terror of Friday and the number thirteen.

It is a great temptation to continue indefinitely this recountal of the vagaries of genius. Much of interest might be told of Balzac, Swift, Poe, Erskine, Wilberforce, Coleridge, Darwin, Goethe, but enough has been said to demonstrate that mental deviates are very often intelligent,—so intelligent in fact, that they may be men of talent and even of genius who have made a marked difference in the progress of their century.

The fact, however, that certain mental deviates have a social value does not do away with the duties and rights of society towards these patient, either in the matter of taking care of them or of protecting itself against them.

All mental deviates are not geniuses, and even when they are, their unstable mental condition warrants special supervision. As Shakespeare has made Hamlet say:

"Madness in great ones must not unwatched go."-

The mental deviate may be hurtful to his fellows, and some of them are even dangerous, either all through life or at least at certain periods of their morbid development. They may be pernicious without committing any illegal or reprehensible acts, merely by the influence of their example upon those about them. They are apt to be a source of auxiety to their family and of annoyance to their neighbours. They are particularly deterimental to society when they marry and establish a family by bearing and bringing up children.

Speaking of the pernicious mental deviate, Ranbinovitch has very aptly said:—"Under the appearance of a seeming but deceitful lucidity, they have a superficial but inconsistent conscience, and, above all a wax-like will which never succeeds in governing their desires and instincts. When these latter pursue them, like the fierce and cruel blood hounds of which Shakespeare speaks in one of his works, they are not able to resist them, and simply let themselves go, as they often tell us, without thinking of or without reflecting upon the consequences. Some insist they know what is right and what is wrong, but they know it only theoretically. When they are possessed by tormenting desires which tempt them, their conscience is too weak

to stop them, while their natural appetites, on the other hand, are voracious and insatiable."

The above is certainly a graphic description and true to life, but the elements contained therein are in very many cases difficult to detect. The lucidity which even extreme mental deviates retain is most deceptive. They appear as rational in public as anybody else; as a result they are not only permitted to go about freely, but they enjoy all the rights of a free citizen; they can buy and sell, enter upon and take charge of business affairs, marry and bring up families, direct the education of their children, draw up wills and make bequests. In spite of their unbalanced condition they may talk logically and convincingly and answer correctly any questions which are put to them; to the average observer they have no appearance whatever of abnormal mentality, and often it is impossible to discover or guess their condition except in their family life. It is not only the laity who are deceived in such instances, but even the physician until he receives the secret confidences of family troubles and discovers that he has the tremendous responsibility of dealing with a psychoneurosis.

Fortunate for all concerned if the chosen adviser prove adequate to the situation. Personal, family, even social integrity may depend upon his judgment, tact and intelligence.

The general principles underlying the conduct of the mental deviation problem are chiefly pophylaxis, mental hygiene and education.

Prophylaxis is, of course, the greatest hope for social preservation against the ever increasing psychoneuroses. Such prophylaxis must start out with an exact knowledge of the numerous causes which may develop these maladies, and methods of pointing out and disseminating a knowledge of how to avoid these causes.

It should be realized that any one of these causes, no matter how powerful and redoubtable it may seem, is neither absolute nor inevitable. Heredity itself, which has so long and so universally been recognized in this etiology, is not certain and constant in its results. The partisans who are most convinced of morbid heredity recognize that the transmission of pathological characteristics is not inevitable, and if it does take place the result is not necessarily fatal. Heredity more often needs a nervous contagion, or a bad moral or physical hygiene, or an infection or intoxication, in order to bring about the disease.

The effort at discovery and elimination of the psychic causes of nervous and mental diseases by workers in those fields is no less important than that of the laboratory worker in his search for virulent micro-organisms and immunizing sera.

Whether or not nervous and mental diseases are on the increase, it must be admitted that the American people of today are deservedly looked upon as a nervous race.

The pernicious influences with which our business and social life abound are well recognized and considerable has been accomplished in the way of correction, but notwithstanding many evidences of an awakening realization of the necessity for conservation, under the impulsion of the modern necessity for luxuries, the strife for gold and place still wages fiercely. Business methods tug hard at the restraining bond of legitimacy, and social custom approaches perilously near the border line of license. Conscience may be stilled by the specious excuse of "universal customs," but the steadying, uplifting, ennobling influence of conscious rectitude is lost, and for this there can be no compensation.

Competition makes tense every power of mind and body, and the frequent combination of intellectual superiority with mental instability furnishes to the young and ambitious an alluring but dangerous example.

It is, therefore, necessary that the educational campaign against influences pernicious to nervous and mental integrity be steadily carried on, not only by organizations like that under the auspices of which we are convened, but also by individuals, both medical and lay.

It is not an exaggeration to say that the majority of nervous and mental disorders may be classified as induced diseases, that their causes are in most cases avoidable. It is the province of the scientist to understand these phenomena of cause and effect, but value to mankind of such knowledge will be but small unless it is disseminated to the people, stripped of technical verbiage and clothed in such unmistakable and forceful terms that it must appeal to the intelligence, the sentiment and the self-interest of the laity.

The popular tuberculosis "classes" have done more to instruct the people in the fundamental laws of sanitation than any other influence of recent times. A similar campaign of education in mental hygiene is of equal necessity and would not only prevent much human misery but would be of incalculable economic value to the world. Such a campaign it is proposed to inaugurate in connection with the neurological branch of the new Robert Dawson Evans Department of Clinical Research and Preventive Medicine. In the auditorium provided for public education will he formed classes for instruction in the self-correction of errors of thinking as well of living. Popular education along these lines is needed in every community and should be given by the physician who, by reason of his unparalleled intimacy with the vast range of human individuality, is best qualified for a work which too often in the past has been left to the innumerable parasites of the healer type, ranging from the medical outlaws who prey upon impressionable men and women to the more honest, but often over-zealous exponents of the various cults of pseudo-religious psychotherapy.

In our search for the causes of mental deviation we must not ignore the potent influences to be found in everyday life, and is desired to offer the suggestion that, exclusive of true psychoses and organic neuroses, a considerable proportion of so-called psychoneurosis originates as an affectation and becomes a habit more or less fixed in character.

Even a casual observer must recognize the frequent mimetic origin of certain gestures, shrugs, poses or attitudes and gaits.

Of equally common observation of words and phrases, use of intonation, etc., which have appealed to individual taste and have been adopted as especially fitting some phase of business or social activity.

Every public conveyance is sure to contain its quota of "tiquers." The man who squirms his neck as the relic of an effort to obtain relief from a tight collar; or he who continually shrugs one shoulder as he once did to ease an ill-fitting coat; or the woman with the head-toss acquired in adjusting a wide hat no longer worn; or she who repeatedly contracts one corner of her mouth in spite of the vanished hope of producing a dimple.

These and a thousand other facial and bodily contortions, visible to anyone who observes, were without doubt, originally purposive and therefore constitute so-called motor ties.

Whether the original purpose of these motor acts was to secure temporary comfort, or pleasurable sensation, or to imitate what was considered an "outward semblance of grace within" they are no longer volitional, but automatic; in short, they have become fixed habits.

Equally numerous are stereotyped habits of thought engendered in similar manner from causes as easily avoidable.

Of this type are the assumed mental attitudes, whether of impatience or tolerance, of fortitude or self-pity. To be sure these, and similar emotions, may be found within normal limits, but when their exhibition is untimely and illogical they become abnormal and by frequent repetition gradually acquire the pathological features of tenacity and irresistibility. The habitual air of martyrdom so common in hypochondriacs is rarely backed by the requisite philosophy to render it attractive; assumed originally as one of many products of their ingenuity in vindicating their weaknesses, it has become part of their life and personality.

The role played by imitation as an etiological factor in the production of these psychic states is no less important than it is in the case of motor obsession; indeed, the thought and the

gesture being well-nigh inseparable both classes of phenomena may arise from a common cause.

For example, the purposive imitation of an impressive gesture of impatience may, if frequently repeated, beget a corresponding mental state wich becomes as habitual as the motor demonstration.

Nine times out of ten the man who lights eigarette after eigarette, taking a few whiffs, and throwing them aside scarce touched, does so not for the sake of the effect of the narcotic, but from force of habit originally contracted by imitation of some one in whom the practice was supposed to indicate tremendons nerve energy.

The feminine fear of mouse arises less frequently from instinct than from conformity with tradition, and doubtless, the habit would continue even though the sex adopted the fashion of bloomers.

As all habits are, to a greater or less extent, the products of education, it might be contended perhaps that the prevention and correction of those that are prejudicial might properly be left to the parent and the pedagogue. Such sources of possible relief cannot be relied upon to be productive of much good until the medical profession has succeeded in impressing upon the lay mind the potent influence for material good or evil of every human life with whom we come in contact.

This is an old theme often expounded from a moral and ethical standpoint, but from a medical standpoint much of importance to the physical and mental welfare of humanity is still left unsaid.

As has been said, between the integrity of the intellectual faculties and complete mental alienation there are infinite degrees of difference, but, speaking generally, it lies within the scope of man's faculties to determine, so far as motives are concerned, of what his normality should consist.

In every voluntary and deliberate act there is a judgment in which the individual compares and weighs, to some extent at least, the desire which he has to do a given thing and the duty which he has not to do it.

Horace Mann said that "for all that grows one former is worth a hundred reformers."

The formation of habits is as easy as their reformation is difficult. Were it possible to inculcate into the mind of the individual that his desire should be for a grade of normality most useful to the world and least harmful to himself and others, duty and desire would not so often conflict, and judgment would less frequently err in the selection of fitting models. The consummation of such a standard may seem idealistic, but it is confidently believed that an intelligent effort to bring to the minds of people a realization that the establishment and preservation of nervous and mental stability is dependent largely upon the acquisition of those habits which are healthful,—that it is not difficult to be the author of a habit of which one afterwards becomes a victim,...would, do much to modify some of the causes of mental deviation.

Ruskin, with his usual perspicacity, has written: "Any interference which tends to reform and protect the health of the masses is viewed by them as unwarranted interference with their vested rights to inevitable disease and death." This statement applies as well to mental and moral health as to physical health. Standards of right and wrong vary greatly, and any attempt at altering them is apt to be looked upon as pharisaical but when a man's physician demonstrates to him that some stereotyped thought or act is sure to have a pernicious effect upon the intergrity of his brain or nerves, that man is very likely to pay respectful attention and to exercise whatever will power he may possess in an effort to escape the impending thraldom.

Prominent among influences calculated to facilitate the evolution of undesirable habits is environment, especially where children are concerned. Mimicry is strong in the child's nature, and bad habits are quickly contracted. Should he be tainted with a neurotic inheritance in addition, the development of some bad mental habit may result from the slenderest pretext.

We must put aside all illusions and confess that the present

generation of youth, both boys and girls, presents abnormalities of nervous and mental development to an extent not known in former years. That the modern obsession by the demon of education is in part responsible for this there can be no doubt. It must be admitted by the most casual observer that the educational standard set for the youth of today cannot be successfully maintained by those of average intelligence except at the cost of undue mental effort. Under such stress, at the pubescent age, when the imitative faculty reaches its acme, it is inevitable that the youth more or less consciously reproduces and exaggerates the idiosynerasies of teachers, fellow pupils, and home associates, and under the influence of the "juvenile serfdom" imposed by present educational methods it is not strange that various eccentricities become strongly entrenched.

Teachers are indifferent and parents are often deplorably indulgent. Their thoughtlessness or their ignorance permits the installation of obnoxious habits and fosters their growth. For the watchful discipline which should curb childish tricks and caprices there is unfortunately substituted a disastrous tolerance that only stimulates the development of habits more or less harmful according to their character.

The physician should appreciate these etiologic conditions and earnestly endeavor to, at least, improve them.

In a given case patient analysis will usually reveal the origin of the obsession. To accomplish this it is rarely necessary to resort to the tedious and complicated reaction tests or to hypnosis, or even to "hypnoidal states of abstraction." These much lauded methods, by their complexity and their air of mystery, tend to confuse the patient and frequently produce results which are inaccurate and misleading.

Far more satisfactory results can be obtained by direct interrogation when the patient's intelligence is keenly alive to aid us in our inquiry the object of which is entirely within the power of average comprehension.

Having fixed the responsibility for the obsession it is not always easy to convince its victim of the possibility or even the

desirability of removing it. Sometimes the mere interpretation of the symptoms together with explanation of its cause is sufficient to arouse a confident effort at self-correction. More often, repeated explanation, suggestion and persuasion are found to be necessary in order to successfully eradicate the deeply rooted sub-conscious complex.

When we seek to analyze the pathogeny of obsession and especially the obsession of an automatically recurring rhythm (obsession of habit) we almost invariably find a constitutionally prepared pre-disposition which may be simply defined as a weakness of will. This faculty of the higher psychism it should be our constant aim to strengthen.

In proportion to our ability to promote will power and reasoning faculty, will our task be easy. If by reason of heredity, of youth, or of defective training, these two higher attributes be notably lacking, then self-help is not to be looked for, and rescue is well-nigh impossible. The obsessed of this type hug their habits closely to themselves, and, because of their deficient judgment, prefer the darkness of slavery rather than the light of emancipation.

Fortunately, however, the majority of cases are amenable, in some measure, to treatment. Realization of the character of the affection and the discovery and removal of the character of the affection and the discovery and removal of the cause will often succeeded in bringing about a surprising improvement, physically as well as mentally.

It is believed that one of the most important results of a general recognition and better understanding of the mental deviate would be a more liberal interpretation of mental responsibility leading to the establishment of new standards of incapacity and the devising of new means to safeguard against the many crimes which are due to folly rather than to depravity. Furthermore, there should result a radical change in the character of punishment visited upon these unfortunates when they have committed some illegal act.

While recognition of the so-called "criminal insane" has in

many states led to special provision for their care in separate institutions, no discrimination has so far been made between ordinary criminals and those whose offences result, not from insune delusions or maniacal outbursts, but from mental deviation.

The question may arise, "are not all criminal mental deviates?" This is not true according to the conception of the term as used in this paper. Many persons are criminals by nature and more are such by training in a criminal atmosphere, adopting crime as a means of livelihood, (and this not from ignorance or necessity, but from chronic) and living in a world having its own classes and standards. Such persons constitute a type distinct from the delinquent mental deviate as I would classify him.

I refer to that large class of offenders whose chief characteristic is aboulia, or weakness of will, where the subject has not the mental or moral stamina to resist inclination or suggestion. "Drifting about like a ship without a rudder, fairly well if the winds be fair and the sea be calm, but dependent upon the elements for the character and the time of the final wreck." Or those whose delinquencies arise perhaps from mental and moral relaxation due to the harassing tire of hard and wearing life. or the pressure of a too complicated civilization, or through the use of alcohol or drugs,...the disequilibrated with distorted concepts, who have lacked the guidance necessary to keep them off the rocks of disaster. These unfortunate victims of a faulty mental equipment are neither criminal nor insane, yet society and the law decrees that they shall be considered either the one or the other and treated accordingly. Reform in the manner of dealing with these delinquent mental deviates is imperative and should be immediate and radical.

That there are individuals who are not insane and yet whose criminality is due to mental deviation there can be no doubt. It seems equally true that while such persons should not be treated like ordinary criminals.

In pursuance of present custom he who through lack of

judgment, or by reason of undue susceptibility to the influence of circumstance, breaks the law may be subjected to association with those of distinctly criminal instincts and habitual practice. Such a person may upon incarceration be entirely ignorant of criminal methods, but it does not need a long sentence for the acquirement of a liberal education in the technic of the grossest crimes as well as linguistic proficiency in the jargon of the under-world.

It is contended that it is the duty of the State to extend to the mental deviate guilty of crime the same judicial inquiry that is now made into the crime itself. If this contention is well based the injustice of passing sentence upon a convicted criminal without investigation of his personality and his past must be conceded. If it is found that the offence is the result of distinctly criminal mind and intent the proper disposition of the case would seem obvious. On the other hand should investigation show an absence of malice or criminal purpose, and that this offence has been the outcome of mental deviation, it would seem as manifestly unjust to force upon such an individual association with frankly criminal minds as it would be to thrust a mildly insane person into a ward devoted to raving maniaes. Under the influence of such association if he is not a criminal he is liable to become one, or if he escape this fate, constant brooding upon the disgrace he has brought upon himself and others, as well as the ignominy of consorting with the lower types of mind, inevitably tends to still further exaggerate his mental deviation as well as impair his physical health, until at his release he is simply one more human wreck for the community to care for and guard itself against.

If, however, such an individual could be placed in an environment conducive to mental and moral uplift, subject to intelligent observation and study by those qualified for the work, principles of self-restraint, unselfishness, mutual consideration and general integrity might be inculcated and a human soul redeemed.

Is it impossible, or even impracticable, to establish what might be called a redemption colony where those who have

transgressed through their misfortune of mental deviation, may be studied and treated as well as punished by detention, where by environment, education, admonition and persuation, their weak characteristics may be strengthened and their superior endowments rendered available to the world's profit?

Such a differentiation and such a plan of procedure as has been proposed is not Utopian, and the attendant expense would be in nowise comparable to the enormous economic waste incident to present punitive measures whereby it not infrequently happens that instead of unfortunates being returned to the world fitted for the duties of good citizenship, a finished product of criminal education is turned out to prey upon society and evade the law by the aid of the knowledge obtained from experts.

While it is possible that public opinion is not yet moulded so as to bring about abruptly a radical departure from our present modes of legal enactment, it is confidently predicted that the time must soon come when the courts considering offences against the law will regard the criminal rather than the crime.

And now in closing I may say the chief objects of my effort is to point out the responsibility which devolves upon society and the law to recognize a steadily increasing psychopathic tendency in the community, to search for and combat the causes thereof, by educating the laity in mental hygiene to use all knowledge and intelligence to protect society from the mental deviate from himself and from society.—The New England Medical Gazette, May, 1913.

EDITOR'S NOTES.

A Food Congress at Ghent.

An international exhibition is to be held in Ghent this year, and the occasion has suggested the convening of an international congress on questions relating to food adulteration. The date of this congress has been fixed for the first three days of August. The regulations under which the proceedings are to be conducted have been issued and an agenda of the subjects for discussion formulated. It is the view of the organisers that subjects should be approached not so much from a scientific as from a social standpoint. Amongst the topics which have already received a place for discussion are the protection of food substances from dirt, the regulation of the manufacture of table waters, the adoption of official methods of analysis for foods, the control of the sale of milk, the desirability of including in any scheme of education instruction about the nutritive values of foods, the question of the sale and production of foods in places where there may be persons suffering from infectious disease, the control of the use of prescrvatives, and the enforcement of regulations providing for the washing of glasses in public-houses. work of the whole congress is divided into four sections: (a) chemistry, (b) hygiene, (c) popular education on food and cognate subjects, and (d) legislation.—The Lancet, April 19, 1913.

The Potato.

Though the poisonous alkaloid and glucoside known as solanine is a normal constituent of the healthy potato, references to toxicological literature fail to furnish any decisive evidence that tuber has caused any widespread or serious illness. In these days, when alarming symptoms of poisoning may sometimes be traced to food in which, for some mysterious reason, the poisons known as ptomaines have elaborated themselves, it is just as well when searching for the fons et origo mali not to forget the potato, for under certain conditions solanine may be found in unusual quantity, and this alkaloid may set up the usual disturbances which are characteristic of an irritant poison. In the normal potato the amount seldom exceeds 0.01 per cent., but this may easily be exceeded in the diseased potato. Sprouting potatoes seem to contain a more than usual quantity of alkaloid, while it is also more likely to be present in the immature potato. Thus the potato residues, consisting probably of sprouting potatoes, from a distillery have been found

to be responsible for the occurrence of poisonous symptoms in cattle and solanine was separated from the mash by analysis. It appears to occur in larger proportion in the peel, so that there may be reasons for avoiding the "jacket." Though not very soluble in water it is probable that boiling removes some of the alkaloid. As we have stated, however, there is little in toxicological records which amounts to a serious indictment against the potato, and the small doses which occur are stated by some authorities to be an excellent sedative, more efficacious in long-standing neuralgia, especially when neuritis is present, than either antipyrine or antifebrin. We have little doubt that oftentimes a judicious diet of potatoes would be of greater benefit to a good many self-physicking people than a dose of some antipyretic substance which they regard as adapted to relieve all headaches whatsoever their origin.—The Lancet, April 19, 1913.

The common Hairbrush.

The tendency of modern times is to make civilised people much more fastidious than were their ancestors. At one time at a meal the meat was served in a dish from which each dinner took with his fingers what he required, and cut it on his own plate with his knife: at an early period the knife used was that which served for many other purposes, and it was never what is now called clean. The practice of feeding from a common dish obtains to-day among the Arabs, most courteous of hosts, if not so exuberant in their attentions as the dinner givers in some savage countries, where it is considered a polite attention for the entertainer to take a toothsome morsel from his own lips and to place it in the mouth of his guest. Customs such as these must have tended to spread disease. We have changed our manners in many respects, but there are still many habits of life in which greater care might be exercised. The risk of infection is materially diminished by taking a reasonable amount of care, and this is true not only of the more serious diseases, such as the infectious fevers, but also of the slighter affections such as ringworm. It is curious that even at the present day very little care is taken to prevent infection of the scalp. Until recently even hairdressers, employed the same brush to all customers without making any attempt to disinfect it or even to cleanse it. true that many hairdressers do attempt to sterilise the brushes and other implements which they employ, but it is still customary with many persons to employ almost any hairbrush which may be available. In the dressing-rooms of clubs common hairbrushes are provided, and few hesitate to employ them. Now it is generally agreed that seborrhea of the scalp is microbic in origin, and though the resisting power of the individual is an important factor in the production of the disease, infection also plays an active part. So that it cannot be doubted that the use of a hairbrush employed by others carries risk. It is not improbable that the increase of baldness in civilised communities is associated with the greater risks of infection of the scalp which exist—The Lancet, April 26, 1913.

The Perception of space.

Some interesting experiments on the functions of the vestibule as an organ for the perception of space were reported by Dr. F. L. Golla in a paper read before the Neurological Section of the Royal Society of Medicine. The method adopted was to place the subject of the experiment with closed eyes before a screen ruled in millimetre sgares and to get him to indicate on the screen his idea of a point exactly opposite to a point on his own body touched by the experimenter. When the degree of accuracy attained had been thus noted the subject was seated in a rotating chair with his head fixed and the screen held in the same relative position. After undergoing 30 revolutions at a speed of one revolution in five seconds, he was again made to indicate the points touched, and it was found that he tended to place the point in space before him a considerable distance towards the side of the screen away from which rotation had been made. If the subject's head were fixed so that the line passing between the two ears was vertical, a vertical displacements of the point touched was observed. A curious case bearing on the same subject was recorded in our own columns by Mr. Macleod Yearsley, in which a patient who had suffered loss of one labyrinth by disease and had had the other destroyed as a remedy for the resulting vertigo, was found to be quite his movements or realise his position in the dark. Thus, if he got out of bed in the night he remained collapsed and helpless on the floor till help arrived. Dr. Golla adopts Cyon's explanation of our ideas of space—viz. that there is a continuous stream of sensations of space derived from the internal ear which blends with and qualifies all other sensations. It is interesting to speculate as to whether a similar organ will some day be discovered to account for the remaining great metaphysical problem—our idea of time.—The Lancet, April 27.

The Poison of Laburnum.

Cases of poisoning through eating the seeds of the common laburnum tree (cytisus-laburnum) have been recorded on several occasions in our columns. The victims are generally children, but a more recent case disclosed the fact that three women had partaken of a dish in which laburnum flowers had been used as a flavouring agent in mistake for those of Robinia pseudacacia (locust tree). most constant symptom appears to be vomiting, succeeded by prostration and torpor, which may or may not be proceeded by a stage of excitement. Other symptoms described are delirium. hallucinations, mydriasis, muscular twitchings, convulsions, salivation diarrhea, vertigo, pallor, and cold sweats. The first symptom may be a feeling of numbness in the hands. When death occurs it is due to respiratory paralysis. The see's yield on suitable treatment an alkaloid called cytisine and its physiological action has been studied by a number of observers. The most recent addition to this study has been made in the Wellcome Physiological Research Laboratories, by Dr. H. H. Dale and Mr. P. P. Laidlaw, B. C., who confirm the impression made by perusal of the accounts of previous workers that the action of cytisine is closely similar to that of nicotine. The excitatory action of the laburnum alkaloid on skeletal muscle is reported to be similar to, but weaker than, that of the tobacco alkaloid: in curare-like action, the two appear to be nearly identical. The similarity with nicotine is close, so that the observers are led to doubt whether any instance of such exact parallelism is known to exist in the case of substances which are not close chemical relatives, except in the case of the apparently still closer resemblance in action to nicotine exhibited by lobeline. Though little is known of the constitution of cytisine, there are indications that its structure in some points resembles that of nicotine. The observers' experiments lend no support to the suggestion of cytisine possessing therapeutic value, but they suggest that it could be used in place of nicotine for physiological investigations. There are advantages in its easy preparation, with large yield from the readily and cheaply obtainable laburnum seeds, its stability, and in the case with which it can be purified. The alkaloid crystallises well and can be distilled under reduced pressure.—The Lancet, April 27.

Spurious Foam.

We called attention some time back to the fact that many beverages were made attractive by the addition of certain preparations producing a foam upon the surface of the fluid. The most frequently used substance for this purpose, we pointed out, was a preparation known as soap bark-quillaia asponaria-its property of producing a froth being due to the presence of the glucoside saponin. We entered two objections to the use of this substance in beverages. First, it is added to give to a fluid which is in reality flat, stale, and unprofitable, the appearance of healthy briskness. That is a deception which may succeed with uncritical palates in passing off an unworthy beer as sound. Secondly, although the quantity of saponin necessary for the purpose is small, yet it is equally without doubt a poisonous glucoside, and on general principles it is desirable to keep poisons out of liquids destined for human consumption. That suponin is not altogether an inert body is evident from the fact that its lather has been used to kill pediculi of the scalp, and further, though it appears to have been used as an expectorant in bronchitis, it is contra-indicated in inflammation of the intestines or stomach and in ulcerated conditions of the mucous membrane, while large quantities paralyse the respiratory vaso-motor centres. Our references to these facts in relation to the use of saponin in common beverages, such as mineral waters and beer, were generally discredited on the score that the quantity sufficient for giving a "head" was infinitesimal. In days, however, when the origin of many symptoms is obscure, it is well to have an eye to the possibilities of causation in the manifold resources of modern methods of manufacture. It is significant, at all events, that the use of saponin was some years ago prohibited in Austria, but a more recent step in the same direction, for doubtless very good reasons, has been taken by the Department of Health of the city of New York. In a bulletin issued for the week ending March 22nd last the use of soap bark in soda-water is prohibited. A preparation of soap bark (saponin), according to the bulletin, is used quite commonly in the country in the preparation of soda-water, in some kinds of "soft" drinks, and in fillings used by bakers. Soap bark contains, it is further stated, a poisonous substance, and the Health Department considers the use of a soap bark extract or of commercial saponin in foods or food preparations in any quantity whatever an injurious adulteration, and forthwith prohibits its use. We objected primarily to the false appearance of healthy

effervescence which the addition of saponin gives to beverages because such an appearance implies a wholesome aerated condition of the fluid due to disengagement of carbonic acid gas. Next we raised an objection on account of the well-known irritant properties of saponin, though we were well aware that the quanity sufficing for the purpose was small. As will be seen, a complete endorsement of the views we expressed seven years ago occurs in the opening sentences contained in the weekly bulletin of the Department of Health referred to. They are as follows: "The average person who drinks soda-water, sarsaparilla, cream soda, root beer, and other socalled 'soft' drinks, probably imagines, if he gives any thought to the matter, that the creamy deep foam which tops his glass results naturally from the liberation of the carbonic acid gas therein contained. Such, unfortunately, is frequently not the case, the foam, especially when deep, white and creamy, being sometimes produced artificially by the addition of a substance known as soap bark, various preparations of which are upon the market. 'Soap bark' is poisonous and markedly so, its toxic principle being sapotoxin. On this account the Department of Health has determined to prohibit its use, and henceforth if the cheaper grades of soda water, &c., do not present so attractive an appearance as heretofore, they will, at least, exercise no detrimental effect upon the community."-The Lancet, April 26, 1913.

Bismuth Poisoning.

LITTLE information is to be found in the text-books on bismuth poisoning, though cases can be found in medical literature for more than a century. Probably the reason is that the toxic symptoms were supposed to be due to impurities, such as arsenic and lead. recent years, since the introduction of Beck's method of treating sinuses by the injection of bismuth paste and the use of bismuth in skiagraphy, cases of poisoning have been more numerous. In 1887 Dalche and Villjean showed that pure bismuth salts were toxic. They gave a dog daily 10 grammes of the subnitrate without observing any ill-effect, but when the salt was put on a raw surface of any extent intoxication often followed. They then made experiments by subcutaneous injection. A dog was injected with bismuth subnitrate on 12 successive days. It died on the thirteenth day. Five days before death there was noticed on the gums of the anterior molars a-brownish-violet, glistening serrated line. This line extended and became superficially gangrenous, presenting softened greyish-white

plaques surrounded by a brownish-vlolet areola. Spots of the same colour appeared in the mucous membrane of the mouth. Dalche and Villiean also observed two cases of bismuth poisoning in man, characterised by a black line and white diphtheritic membranes on the gums and bismuth in the urine. Thus the most striking feature of bismuth poisoning is stomatitis. In advanced stages the teeth fall out. the American Journal of the Medical Sciences for November, Dr. L. M. Warfield has reported the following case. A girl, aged 9 years, was admitted into hospital on Sept. 9th, 1911, complaining of a sore mouth. She had suffered from psoas abscess which was twice incised. In November, 1910, about 2 ounces of Beck's subnitrate paste were injected into the sinus, which promptly closed and no paste was ever Within two weeks a black line was noticed on the margins of the gums. This had persisted, becoming more or less prominent from time to time. In August, 1911, an ulcer formed on the mucous membrane of the right cheek opposite the second molar tooth. Later, the right side of the tongue ulcerated. On examination the child was found well nourished. The breath was very foetid, teeth were yellowish and many of them were decayed. On the gum margins of both jaws, both outside and on the inner and outer sides, was a dark, violet-black line about 15. mm in depth which did not quite reach the free border. The teeth were not loosened. Along the whole right edge of the tongue was a violet-black discolouration which in its widest part measured 2 cm. In its centre was a white opaque serrated membrane adherent to the underlying tissues. On the buccal surface of the right cheek were two ulcers similar to that on the tongue. A skiagram of the right lumbar region showed a shadow 10 cm. long and 2 to 4 cm. broad. Evidently almost all the bismuth remained. No bismuth, albumin, or casts could be found in the urine. Gradual improvement took place, and on Feb. 19th, 1912, the tongue and cheek were healed and the breath was no longer fætid, but the line on the gums persisted. A number of similar cases of bismuth poisoning have been recorded, and also about 20 deaths. From the records a typical picture can be drawn which differs from that of lead or mercurial poisoning. There are three forms: (1) benign, in which a violet-black line is the only manifestation; (2) moderately severe, in which there is more or less acute stomatitis, which is succeeded by chronic stomatitis characterised by discolouration of the gum margins and tattooing of the buccal mucosa; (3) a severe form in which ulceration occurs, secondary infection supervenes, and general symptoms, such as fever,

hiccough, vomiting, and diarrhee occur. The bismuth line resembles the lead line but differs from it in colour. The urine may be blackish, and frequently contains bismuth and occasionally albumin and casts.—The *Lancet*, April 12, 1913.

Unilateral optic Atrophy after exposure to an arc light.

We take the following from Dr. Bronner's Report published in the Lancet:—

"The patient, who consulted me in November, 1911, had six days previously (on November 23rd) used an electric magic-lantern. The arc light did not act very well, and she was carefully watching and adjusting it for about an hour. The light was covered by a piece of neutral tinted glass, which was frequently removed. She felt no discomfort whatever, but on going downstairs afterwards she noticed that she had difficulty in finding the steps and had to walk slowly. She also felt giddy and unsteady when walking. On the 25th she accidentally found that on closing the right eye she could not see with the left eye; everything looked black. She was quite certain that the vision of the left eye was perfect some days before.

When I saw the patient on November 29th she could only count fingers at the distance of a foot with the left eye. The vision of the right eye was normal. The left pupil was slightly larger than the right, and acted rather more slowly to light. The left retina was congested in the region of the macula; the optic nerve was apparently normal. I ordered Hallauer tinted glasses, and prescribed iodide of potassium and nux vomica. I saw her again on February 12th, 1912. The vision was 6/18, and had been gradually improving. There was ill-defined slight central scotoma, and the field of vision was contracted outwards. The central vision for colours was slightly affected; she recognised large squares of colour quite well, but small squares only indistinctly. The left disc was paler than the right. The region of the macula was apparently normal. On March 28th the vision was 6/12. The field of vision was contracted outwards 60°, and the disc was pale. On April 29th the vision was 6/9-12 and the disc white. On November 2nd the vision was 6/12. The field was contracted outwards and inwards, and the disc was white. There was slight relative central scotoma; a small white square was recognised, but a grey square was not. The patient had difficulty in reading, as the letters in the middle of the field were indistinct; she could only see a few words at a time. The field was distinctly contracted, out 60°, in 40°. There were a few small dark spots in the region of the macula. The disc was quite white and the retinal vessels were narrower than those of the right eye. On January 12th, 1913, the vision of the left eye was 6/12. There was a central scotoma for small squares of red and green, but not for white. The patient still had some difficulty in reading. When she looked at faces parts of the face seemed clearer than others. The field was contracted, out 60°, up 40°, in 40°, and down 30°. The disc was white. There is no history of any disease, no affection of the nose or teeth, or any other part of the body; no constipation or leucorrhea.

This case is interesting from many points of view. There has been no pain or photophobia. The right eye is not affected. This is probably due to the fact that the patient chiefly used her left eye and kept the right eye partly closed when watching the arc light. There was a neutral tinted glass in front of the arc light during part of the time. The disc has got distinctly paler during the last few months, and the field of vision is contracting. There has never been a well-marked central scotoma, although the central vision, especially for colours, has always been more or less affected."—The Lancet, March 29th, 1913.

A Human Aquarium.

An interesting though somewhat nauseating account is given by Dr. W. Sternberg of a French circus artiste named Norton, whose gastronomic feats were discussed by Dr. Paul Farez in the Revue de Psychothérapie. One of Norton's performances is the swallowing of 5 to 7 litres of water at one draught, and the expulsion of the fluid by the mouth, either in a fine jet or in a torrent, as the showman may direct. The performer experiences no discomfort or nausea while playing the part of an ornamental fountain, nor does he mind retaining the water for an indefinite period. This performance alone is worthy of our close attention and of the pennies of side-show patrons; though it is merely the starting-point for vet more wondrous feats. Having taken some water, Norton swallows five to ten living frogs, and reproduces them still alive after a short sojourn in his belly. The disappearance of a live frog down the artiste's gullet, and the reappearance of the frog's legs between his lips before it is finally removed in triumph from his month, produce those thrills and sensations among the spectators which it is the aim of the successful showman to evoke. Another successful "turn" is the swallowing of ten frogs, followed by as many goldfish, whose

susceptibility to changes in their environment is well known. Yet, at the showman's command, they reappear none the worse for their It is a curious fact that, though the frogs are swallowed first, they are also the first to reappear. The goldfish must consequently have passed them somewhere in the stomach. The fluid ejected at will is perfectly clear and contains no mucus. fluid the artiste washes the frogs before they and the goldfish start on their downward journey; and in it, too, he washes his hands at the end of a performance. By swallowing a couple of electric lamps he is able to display the frogs and goldfish swimming about in their unfamiliar lodgings: and, this, we take it, is the culmination of a performance evidently warranted to draw. Norton is a healthy. powerfully built man of 35, whose organs, apart from his stomach. are said to be normal. No dilation of the oesophagus or stomach is demonstrable by the X rays, and except for its wonderful elasticity and capacity for voluntary contractions the stomach itself presents no abnormalities. Norton's father and grandfather could also drink large quantities of fluid and expel it at will; but only in the third generation does this heirloom appear to have been converted into a source of revenue—'The Brilish Medical Journal, April 26, 1913.

Relapses after Salvarsan in Syphilis.

Gaucher and Levy-Franckel (Ann. des mal. ven., January, 1913) report on 52 cases of relapse after treatment of syphilis by salvarsan and neo-salvarsan, chiefly from the St. Louis Hospital, Paris, partly They find that salvarsan, whether given during from literature. the primary or the secondary stage, only modifies the evolution of the disease by retarding the further symptoms, and that there is no relation between the apparent cure nor between the gravity of the relapse and the number and dose of the injections; for instance a case of severe iritis occurred after twelve intravenous injections of 0.15 gram. They draw attention to the frequency of recurrent roseola redux chancre, or chancre recurring in situ, after treatment during the secondary period. They also point out the danger of false security given to patients treated by salvarsan, especially as regards marriage. With regard to the effect on the Wassermann reaction, this may remain positive or become negative, but a positive reaction was obtained in some cases with Desmoulieres's antigen (1 per cent. cholesterin added to an alcoholic maceration of powdered herodo-syphilitic liver extracted with ether) when the usual Wassermann was negative. The authors conclude that salvarsan is only indicated when mercury fails, and when the liver, kidneys, nervous system, eyes, and ears are sound, and that it "whitewashes" syphilis, but does not cure it.—The British Medical Journal, April 26, 1913.

The Profession of the Future.

The philosopher Descartes said that if the human race is to be perfected it is in medicine that the means to that end are to be found. Diderot, who, though not a member of the profession, took a great interest in the science, and wrote much about it and physiology, was even more persuaded of the truth of Deseartes's maxim that philosopher himself. He found the means of perfection in disinterested medicine. Here we may be allowed to say that. although of course there have been rapacious doctors, the profession as a whole, especially in modern times, has shown the world the unique spectacle of a body of men actually working against their own interests. Sanitary science, whose aim is the protection of the health of the community and the steady diminution and ultimate abolition of infectious diseases, is the result of medical research. If doctors consulted only their own selfish interests, they would not strive so carnestly as they do to suppress diseases that are so abundant a source of profit. People of the intellectual calibre of Viscount Harberton, better known as the Hon. Ernest Pomerov, call doctors "fee hunters" because they advocate vaccination. Has this ornament of our hereditary legislature attempted to estimate how much more medical practitioners would benefit financially if small-pox were as prevalent as it used to be in pre-Jennerian days? To return to Diderot, he was probably inspired by the great physician Bordeu. He said there were no books that he read more willingly than those treating of medicine, no men whose conversation was more interesting to him than that of doctors. He had grasped the importance of the experimental method and had by scientific second sight seen the shadows cast before by physiological discoveries which were to be made by that method long after his death, Mr. Stephen Paget in the Letters and Memoirs of his distinguished father relates that Sir James Paget one evening at Grillon's sat between Mr. Gladstone and Mr. Matthew Arnold. The talk turned on Arnold said that he had been much impressed in America by the superiority of the doctors over the clergy and the lawyers. Mr. Gladstone said that the medical profession, steadily

developing and improving, was the profession of the future. This is not the only time that Mr. Gladstone expressed his belief in the great destiny of the medical profession. At the opening of the Medical College of Guy's Hospital on March 26th, 1890, he said that now, both from social considerations and likewise from the immense and steady advance in knowledge of his great science, the doctor was from year, from generation to generation, becoming a more powerful and important person as a portion of the social machine. Nor was this a mere outburst of enthusiasm inspired by the occasion. Many years before, at the dinner held in connexion with the Annual Meeting of the British Medical Association in London in 1873, Mr. Gladstone spoke of the change that increase of knowledge had made in the medical profession. It was impossible, he said, even to an observer from without, not to see the doctor's greater and more sustained carnestness of purpose; the elevated sense of his professional dignity; the desire to make it subservient to the good of humanity; the general exaltation of his aims. He added that the course of affairs tended in every way to show that this process was continuous. The position of the profession had long been, and he thought must continue to be, one of constantly increasing influence and power. Mr. Gladstone's testimony to the growing importance of the profession is all the more striking in view of the fact that he never seems to have realized that the public health was any concern of the politician; even his intimate friend, Sir Henry Acland, could not arouse in the man whose intellectual curiosity was of the most encyclopaedic range any interest in a thing which should be among the first cares of a statesman. But, although his prophecy has not yet been fulfilled, we think that in his vision of the profession of the future Mr. Gladstone showed a surer appreciation of the truth than some of the politicians into whose hands the divine lyre of his oratory has degenerated.—The British Medical Journal, April 26, 1913.

Compulsory Cadet Training.

Without expressing any opinion on the burning topic of universal military service for Britain, a compromise plan in relation thereto, put forth by General Sir Ian Hamilton, suggests a measure which, if carried out, cannot but react beneficially on the coming generation. Sir Ian Hamilton summarises the three great factors of training as the development of the mind, the formation of character, and the

building up of the physique. From close observation for many years of the raw material of soldiers he testifies to the vast improvement that has taken place in mental quality since 1870, the beginning of the modern era of education; but as to character-which modern education has not taken adequately into account—he does not find the same firm basis of grit to work upon; while as to physique, he considers it an open question whether the twentieth century could hold its own with the soldiers who marched from Kabul to Kandahar. He urges the importance, in revising our educational methods, of stamping upon the plastic mind of youth a unifying principle of life to embody twin conceptions -a conception of the State in peace and of the everyday duties of the citizen, and a conception of the State in danger and of the citizen's ultimate duty therein. this training he urges the institution of compulsory cadet training in all schools, public and private, which he regards as a prerequisite to voluntary effort later on; for an idea implanted as a seed in the mind of a boy is a real living force, an organic growth, whereas obedience to order by a man is mechanical, and ceases to work when it is no longer being wound up. To cultivate voluntary individual effort in the adult, which is no more spontaneous than life itself. but must have had its generation from others, it is necessary that the seed should have been sown. The experience of Natal, he contends. is that so far from enforced military training of all boys stimulating "jingoism," its tendency is to subject every able-bodied male to the sobering consideration that he personally may have to pay for war. not through his teapot or the income-tax, but "by his widow pocketing his life insurance proceeds." He classes as the outward and visible signs of the compulsory cadet system, as witnessed in Natal. discipline, self-restraint, good manners, cleanliness, and physical development, all eminently proper objects of education. must be added the conception of the dependence of the whole on the parts and of the interdependence of the parts one on the other. thus stimulating a devotion to duty and an abhorrence of, an : contempt for, the "slacker." We forbear here to follow Sir Ian Hamilton's argument further and to consider this question as it relates to the defensive needs of the Empire, because that is outside our metier; but we do believe that such a course would have a salutary and improving effect on the health, mental, moral, and physical. of the future generation.—The Lancet, May 10, 1913.

Gleanings from Contemporary Literature.

MEDICAL BOOKS OF OTHER DAYS AND SOME REASONS WHY WE CHERISH AND PRESERVE THEM.

By Lewish Stephen Pilcher, M.D., L.L.D., of Brooklyn, N. Y.

The literature of Medicine has engaged the services of the ablest men. Said Holmes. "What glorifies a town like a cathedral? What dignifies a province like a University? What illuminates a country like its scholarship, and what is the nest that hatches scholars but a library?" Then he continues, "The physician, some may say, is a practical man and has little use for all this book learning. Every student has heard Sydenham's reply to Sir Richard Blackmore's question as to what works he should read, meaning medical works. 'Read Don Quixote,' was his famous answer. But Sydenham himself made medical books, and may be presumed to have thought those at least worth reading. Descartes was asked where was his library, and in reply held up the dissected body of an animal. But Descartes made books, great books, and a great many of them. A physician of common sense without erudition is better than a learned one without common sense, but the thorough master of his profession must have learning added to his natural gifts."

Said Weir Mitchell:

"Show us the books he loves and I shall know The man far better than through mortal friends."

By books and by literature I do not mean medical journals and medical text books, vade mecums, and manuals. These are important and invaluable in their place. They are the daily bread and the working tools of the physician, and are to be kept in constant use. Their value is a present but ephemeral value-those of yesterday are supplanted by those of today. and these in turn will give place to those of tomorrow. These alone would be of supreme interest to physicians, if medicine was a mere trade. the mastery of which consisted in learning to do a few things in a certain way, and continuing to those things in the same way day after day ad infinitum. As a learned profession, however, it has a literature which contributes to culture, and familiarity with which exerts an elevating influence on the reader. The elements of this literature have a wide and permanent influence. They are books of today, yes, sometimes, but more frequently of the past, and often of the distant past. In the fields of history and biography, in discussions of medical life and ideals, in essays, even in poetry and romance, they are to be found, and wherever found they awaken lofty sentiment, they broaden views of life, they introduce a more correct perspective into one's estimates as to the value of present things, and they tend to create in the student a mental attitude which makes him more worthy to be classed as a member of a learned profession rather than the mere practitioner of a useful trade.

There are certain great works and writings which mark in a special manner the progress of medicine. These have a permanent interest not only as historical records of the development of medical knowledge, but still more as memorials more enduring than brass, which remind us of the great men and the great achievements of the past. No man can be considered a medical scholar who does not know about them, their place in literature, and the part which their writers played in the evolution of medicine, although he may not read in detail the books themselves. Such are the books of Hippocrates, of Celsus and Galen among the ancients; of Avenzoar and of Avicenna among the Arabians; of Mundinus and Guy de Chauliac, marking the close of the Dark Ages and the beginning of the Renaissance in anatomy and in surgery: of the Regimen Sanitatis Salerni, preserving the memory of the great medigival medical school at Salernum; of Benivieni, the morning star of Pathology; of Berengarius da Carpi, who first demonstrated the practical use of illustrations in anatomical treaties; of Vesalius, the Flemish Knight-errant of anatomy who revolutionized that department of medicine and made his name immortal before he was thirty years of age; of Paracelsus, the medical iconoclast; of Pare, the practical thinker and wise constructor in surgery; of Harvey, the devoted Royalist, who first grasped the idea and demonstrated the fact of the perpetual circuit of the blood; of Sydenham, the grim Puritan, the English Hippocrates; of Boerhaave, whose aphorisms, and of Albinus, whose plates, marked the high point of the Dutch school at the close of the seventeenth and beginning of the eighteenth century; the books of Cheselden, of Monro, and of Hunter. signalling the rise of the English school at the close of the eighteenth century.

These are by no means all the names worthy of being mentioned in this connection, but I content myself with these few as examples of what I mean now to enforce. These are great mountain peaks of the medical world that stand out the more clearly as a wider historical horizon is attained.

There has recently come into my possession a list of the books contained in the library left by the great Boerhaave, the illustrious scholar and teacher of Leyden, whom you will have noted I have included among the highest peaks of medicine. I have heen interested to look this list over, and see what Boerhaave thought of the place that should be given to the ancients. Foremost I find to stand Hippocrates, of whose works, either entire or in portions, he had on his shelves twenty editions. Of Galen there was the great editio princeps of 1525 from the Aldine Press, and the succeeding edition of 1538. For Celsus and Avicenna room was given for but one edition each, but of Vesalius, there were collected no less than fourteen editions, from the great folio of 1543 and the tiny duodecimo of 1552 that appeared during the life of the great anatomist, to the magnificent folio volumes of the complete works issued by Albinus and Boerhaave himself in 1725. The school of Salernum, Mundinus,

Carpus, and Paracelsus, all were included. William Harvey also seems to have elicited the special interest of the great Dutchman, for in this library he had assembled four editions of the *De Motu Cordis*, and three editions of the *Exercitationes de Generatione Animalium*. It was in the companionship of such books and in the spirit engendered by them that Boerhaave gathered the inspiration that made him in his time the first physician in Christendom.

It is true that none of us are Boerhaaves, but it is equally true that there is no one of us who would not be the better man and physician if he were more familiar with the literature and history of his chosen profession, of the lofty and magnificent character of whose traditions and chronicles we have but an inadequate conception.

In the earlier years of my own residence in New York, I used to frequently visit the Library of the New York Hospital which through the generosity of that institution was thrown open to the general medical public. In the hallway at the head of the stairs as we ascended from the vestibule to the floor above, where the books were, were cases filled with the folios and quarts of the old master of medicine. They always spoke to me as I entered and welcomed me as if they held the key to the arcana of medicine which they were glad to open to any earnest seeker after truth. Years after I became intimate with the late Dr. George Jackson Fisher, of Sing Sing, N. Y., who, though a typical country doctor, had accumulated the finest private collection of the medical classics that has yet been formed in this country. Guided by him I became more familiar with the treasures of the past and learned somewhat of the art of collecting them for myself. As I sit in my library now and pen these lines. the room is full of the stir of these companions chosen from all the ages. In the magnificent folios which bear the imprint of Aldus, or Oporinus. or Stephanus, or Plantin, or in dainty duodecimos issued by the Elzevirs. or in quartos and octavos from the presses of Leyden, Venice, Lyons, Basle or Frankfort, their voices are contained, ready to speak whenever I am ready to hear. The lives, the work, the character of these authors are part of the precious heritage to which each century is adding and which is being handed down freely to whoever will accept it.

It is not possible for every physician to have a copy of an editio princeps of the various worthies of the past whose special labours or illustrious characters may most command his personal admiration. Whenever, however, such an opportunity does present itself, it should be taken advantage of, and such a book esteemed as the particular ornament of the library, to be venerated quite in the spirit which the Chinaman worships his ancestral tablets. What an influence for culture of mind, for nobility of character and elevation of thought, for purity of purpose, what a corrective for the rampant commercial tendencies of the day would a wide knowledge of the work and the ideals of the great men of the past have upon the workers of the present!

Que of the most important functions of a library such as that which has

become housed within these walls is that it may bring these liberalizing influences in a more extended and important degree to all the physicians of the community by assembling on its shelves many examples of these great classics and by calling frequent and importunate attention to them. Such accumulations of books as those now to be found in the Library of the Surgeon-General's Office at Washington, in the buildings of the Boston Medical Library, of the Medical and Chirurgical Faculty of Maryland, of the College of Physicians of Philadelphia, of the Academy of Medicine of New York, and last but by no means least, of the Medical Society of the County of Kings, in Brooklyn, have already done and will continue to do much to foster a spirit of the highest professional quality in the physicians of this country.

A peculiar interest to us attaches to the disposition of the unique library of ancient authors accumulated by Dr. George Jackson Fisher, to which I have already alluded. When an untimely death snatched him away. his library was acquired by a hospital situated in one of the interior cities. of our state, whose trustees were moved to purchase it by the enthusiasm of their Medical Superintendent who appreciated its worth.

A most charming and every way fitting building to contain them was constructed, and it seemed as if in this beautiful building overlooking the Hudson River this unusual collection of medical classics had obtained a fitting and a permanent home beyond our reach, except as we might from time to time make hasty pilgrimages to visit it. But strange are the changes which time brings about! With the lapse of years new men came into the Board of Trustees of the hospital whose choicest jewel was this grand collection of books. A new superintendent occupied the chair of the former one. With the new men came a new spirit. They could see no value in a lot of old books; they could make better use of the space and the building which they occupied, and lo, this really priceless collection was again announced for sale. A movement was started which culminated in securing for the Library of the Medical Society of the County of Kings this most desirable collection, and here they are today, in what it is hoped will be their permanent home. What the presence of these books upon the shelves of our own library means to us I have tried to faintly indicate in what I have already said.

There are more than a score of them which bear the dates of the fifteenth century and count as typographical incunabula, valuable not merely as samples of early printing in general, but even more so to us as examples of the earliest printed medical works. Of the books of the sixteenth century, a period during which many of the noblest books ever manufactured were produced, there are nearly two hundred and fifty examples.

What wanderings, what changes have these books witnessed since they left the primitive presses that printed them! I know how Fisher treasured them, idealized them, and cared for them. It is growing increasingly difficult to get together such works as the years go on. Their number in the nature of things is decreasing, for they are of perishable materials and the number of those who value them and seek for them is increasing. To me, one of those ancient tomes, with its thick white paper, its Gothic letter columns, its rubricated capitals, its illuminated title page, its sides of solid oak, its cover of embossed hogskin, and its clasps of brass, is as instructive, as attractive, and as precious as is a cathedral to an architect, a great bridge to an engineer, or a cataract or mountain peak to a lover of nature.

EARLY MEDICAL BOOKS.

It will be remembered that the date of the first use of movable type for printing was about 1455. The earliest medical books printed began to appear fifteen years later, 1470, in which year there appears to have been printed four medical books.

First, that which is of especial interest to Anglo-Saxon scholars, because it was from the press of William Caxton, the first English printer while he was still living in Cologne, and because it was by an English author, was the book of Glanville (Bartholomaeus de Glanvilla Anglicus), an English monk. This book was known by the title "De Proprietatibus Rerum," which are the first few words of the descriptive title, viz: "The Properties of Things Very Useful and Profitable to the Human Body, that is to say, the virtues and properties of artificial waters, of herbs, of the nativity of men and women according to the signs of the zodiac, and many receipts against disease. Also a remedial ointment against the pestilential fever and other material approved by many doctors of medicine. Also, there is added at the end a very useful medicine, called "The Medicine of Horses and Other Beasts'."

This book was many times reprinted during the succeeding twenty-five years. It was translated into English and printed by Wynkyn de Worde, and was one of the first books printed upon paper made in England. At the end of this English translation occurs the following reference to the first edition.

"and also of your charyte call to remembraunce the soule of William Caxton first pryter of this boke in laten tong at Coleyn hyself to advance that every well disposed man may thereon loke."

Before the year 1,500 there were thirty-three editions of this book issued.

The second book was the "Arzneybuch" of Ortolff von Bayrlandt, printed at Augsburg by Gunter Zainer.

The third was a treatise on the Plague by Valescus de Tarenta, of which several editions followed in quick succession. There is in the Kings County Library a copy of the book of de Glanville, of the edition of 1485.

The fourth of these earliest books printed was upon the art of dying well: "Ars Bene Moriendi," "Tractatus brevis ac valde utilis de arte & scientia bene bene morient." The author is not known, but one of the earlier editions bears the name of Mathieu of Cracovie, Bishop of Worms.

In several editions translated in Italian, the book is accredited to Dominique de Capranica, Cardinal and Bishop of Fermo, but it is probable that this Italian prelate was only the translator. About the first printed edition known was issued at Strasburg in 1470. Of this there is a copy in the Kings County Library, being the earliest printed book in that collection.

In general medicine the Arabic authors were among the first to be put The year 1471 witnessed the printing of the books of Albucasis, Rhazes, Mesue, and Maimonides, in 1472, Avicenna, and in 1473 Serapion. The wonderful vogue of Avicenna is shown by the fact that before the end of the century forty-three editions of the book had been printed. Fifteenth century copies of all of these authors excepting Maimonides are in the Kings County Library.

Shortly following the appearance of the first editions of these Arabic authors appeared an immense folio by a professor of medicine in the University of Ferrara, Giovanni Michele Savanarola, treating of "all of the diseases of the human body from the head to the feet." This was published in 1486, and is a most interesting example of early typography and binding. A fine copy of it is in this Library. In its teachings it followed closely the Arabic authors.

Of the great classical authors, Hippocrates, Galen, and Celsus, the latter first was put into print in 1478. A copys of this edition is in my own personal library. A second edition appeared in 1481, and of this there is a copy in the Kings County Library. Fragments of Hippocrates and of Galen began to appear in the eighties, but it was not until 1525 for Galen, and 1526 for Hippocrates, that the Venetian house of Aldus gave to the world the magnificent editio princeps of these two authors. Aldine Galen of 1525 is one of the treasures of the County Library.

In anatomy, the book of Mundinus. which had been circulated in manuscript since it was written, in 1326, was first put into type in 1478. A copy of an edition of Mundinus of about 1483 is in the Library. Other editions of Mundinus quickly followed. One of the most celebrated is that which appeared in the collection published by Johannus de Ketham, which is of special note for the reason that it is the first book in which any attempt at anatomical illustration was contained. A de Ketham of the year 1500 is in the Library.

In surgery, the books of William of Saliceto, Peter Argelata and of Guy de Chauliac received early printing, de Chauliac in 1473, Saliceto in 1474, and Argelata in 1480. Of these de Chauliac had the greater vogue, some twenty-three editions, of which were printed in various languages before the close of the century. Among the manuscripts which were early reproduced in type, none was more sought for than the "Regimen Sauitatis Salerni." The first edition of this appears to have been published in 1472. Then followed in quick succession many others, so that the total number before the end of the century had reached fifty-five known editions. It is said that in the course of years more than 250 editions of this little book have been published, and of these, more than 100 are in the Library of the Medical Society of the County of Kings.—The Long. Island Medical Journal, January, 1913.

THE PERMANENCE OF HOMEOPATHY.

By MAURICE WORCESTER TURNER, M.D., BROOKLINE, MASS.

I am glad to have an opportunity to speak on this subject, for I feel very deeply that the permanent character of Homosopathy should be recognized by every homosopath, whether physician or layman, not only for his own knowledge, but that he may also realize how important and far-reaching, both from the past and into the future, are the principles of the medical practice he follows or employs. Besides this, the perception of its permanence may change the attitude of some who are either lukewarm or indifferent toward Homosoputhy. The facts I have to present are not new, but the grouping of these facts and the deduction there-from may be new.

HISTORY.

It is more than a hundred years—to be exact, one hundred and twenty-two years—since Hahuemann received the first suggestion of the homoeopathic law of cure.

During that one hundred and twenty-two years great and numerous changes have occurred in all other departments of science and art, and one often hears the interrogatory statement, "Of course there has been corresponding growth in Homosopathy?"

It is surprising how few realize, even among homosopathic physiciaus, that when Homosopathy was discovered by Hahnemann it stepped forth, as it were, armed cap-a-pie, as did Minerva when Vulcan cleft the head of Jove; and though provings of drugs had to be made, and knowledge of the strength of the remedy to be used ascertained, yet the law was there in its completeness, and did not have to be approached by degrees, in the manner in which science gradually—that is, step by step—often makes a discovery.

This completeness of Homosopathy in the beginning is the key to the understanding of its permanence.

It must also be remembered that the homeopathic principle has been known from the earliest times. Centuries before the Christian era Hippocrates, father of medicine, regarded it as one of the methods of curing the sick. Therefore it was no new thing that Hahnemann discovered, and yet it was destined to become, as a result of his study and research, not only thoroughly understandable, as never before, but also, as never before, practical in application. While Hahnemann's special preparation and his development of homeopathic philosophy were required to bring the truths of Homeopathy into such form that they could be utilized in practice, yet the fact that the principle was known from the time of Hippocrates, at least, is an additional indication of its permanence.

HAHNEMANN.

Hahnemann was a man of extraordinary ability and learning. Ex-

tensive and profound as was his preparation for his lifework, it was equalled, if not excelled, after his discovery of Homeopathy, by his researches in and writings on homeopathic philosophy.

A preparation which included practically all of the scientific knowledge of his time,—certainly all that related to chemistry and medicine,—as well as a knowledge of ten or twelve of the ancient and modern languages, is surely evidence of more than ordinary ability and learning.

Hahnemann was dominated by a rugged honesty which caused him object to the methods of practice then in vogue as giving but little help to his patients, so that he expressed himself as confident that most of them would have done as well without his aid. Relinquishing the practice of medicine for this reason, he reduced himself and his family to want for conscience's sake. Then he obtained a livelihood by translating scientific works, and it was while making one of these translations (Cullen's Materia Medica) that the idea of the law of similars first attracted his attention. Thus his honesty prompted him to put aside medicine, and, turning to his translating for support, he made the discovery which was to give comfort and health to thousands of his fellow-men. Was not this truly providential?

Not till Hahnemann had demonstrated to his own satisfaction to what extent the homosopathic principle was applicable; not until he had thoroughly tested the action of medicines upon himself, his friends and his (early) followers while in health—that is, provings; not until he had pursued the work long enough to be convinced by the marked success that followed the use of remedies so exhibited, that he was no-longer working upon mere opinion or hypothesis, but that he had verified a fact—a fact probably as demonstrable now as anything in science; in a word, not until Hahnemann was satisfied that he had discovered the only law of cure, did he give this knowledge to the world (Hufeland's Journal, 1796.)

The work of verifying the truth of the homosopathic principle, of proving drugs, of the elaboration of the homosopathic philosophy—for they all went on together, eventuating in the Organon and Chronic Diseases—was so complete that it is difficult to comprehend it. Yet we can apprehend something of this great work when we consider that this completeness in the beginning not only of Homosopathy, but of Hahnemann's mastery of its philosophy, as well, is shown by the fact that no one has added to homosopathic knowledge, since Hahnemann's time, except along lines laid out by Hahnemann. Extensions and elaborations have been made, it is true, but nothing which Hahnemann did not know, in his full mastery of the subject, has been deduced.

As an example, take the matter of the proving,—that essential and distinctive homosopathic method of ascertaining what a drug will cause and what it will cure,—the foundation of the materia medica. The greatest of all modern effects in proving has not added anything to what

Hahnemann gave about that remedy. Monumental as is the work, its chief value lies not in the proving itself, though that is flawless, but in the fact that it corroborates Hahnemann's proving, thus making clearly evident to those wavering in faith that the old provings are trustworthy. There its work, a great one, ends. No other effort of this kind will be needed—until the disciples of Hahnemann again forget, as they may sooner or later.

The applicability of Homosopathy to all medical diseases—those that are curable as well as those that may only be palliated—has been demonstrated over and over again since Hahnemann's time. Consequently, it was no half-truth that Hahnemann discovered, but a principal—a law—which when properly applied, always gives the same result.

HOMCEOPATHIC PHILOSOPHY.

Besides the system of therapeutics with which Hahnemann's name is inclusionably united, there included in homeopathic philosophy a fully developed and unique pathology of universal disease application. Modern investigators have finally learned the truth of some of these teachings of Hahnemann, and are learning more every day.

In the acute and chronic miasms, however much they are forgotten or misunderstood, there is a subtle and delicate pathology, in harmony with Hahnemann's views, of the ultimate nature and cause of disease. A recognition of this homocopathic pathology is of distinct advantage in treatment, whereas the modern, or coarser, pathology has but little weight.

With Hahnemann the essential requirement in treatment was the appropriateness of the remedy to the case; this is no more nor no less true today. This appropriateness consists in the agreement of the symptoms of the patient with those develoved by the remedy in its provings; this is no more nor no less true today. He also ascertained that the appropriate remedy (which was proved singly) being found for a case acted best when given singly; this is no more nor no less true today. Also that the repetition of the dose should be a consequence of an exacerbation of the symptoms; this no more nor no less true today. And finally, Hahnemann found that remedies followed each other according to certain more or less well defined relationships, dependent on their mineral or vegetable origin, family groupings and provings—hence, in general, on their symptoms; this also is no more nor no less true today. All of which indicates that the changes in homoeopathic practice which have occurred in over one hundred years are imperceptible.

Elaboration of the method of selecting the remedy with the aid of the repertory, so much in vogue at present, is in reality a simplification, without which the treatment of complicated chronic diseases would be difficult, if not impossible, because of the vast materia medica. The full knowledge, by Hahnemann and his immediate pupils, of the then comparatively few proven drugs made a repertory needless. This soon changed

with the rapid growth of the materia medica, and Bænninghausen's great work followed, which the records show was approved by Hahnemann.

The use of the products of disease—the nosodes—was known to Hahnemann, as the proving of Psorinum discloses, but he clearly indicated that their use should be based upon the proving. Thus the knowledge of the use and the abuse of the nosodes has been the common property of Homosopathy throughout its history.

The close analogy-even possible identity-of isopathy and similia is suggested where Hahnemann says, at the end of vol. 1 of Chronic Diseases: "Psorin is a simillimum of the itch virus. There is no intermediate degree between idem and simillimum; in other words, the thinking man sees that simillimum is the medium between simile and idem. The only definite meaning which the terms 'isopathic and æquale' can convey is that of simillimum; they are not idem."

While it is readily seen that results in modern isopathy may be explained in a similar way, it must be borne in mind that in some instances the action is undoubtedly due not to the serum, but to what is added ostensibly as a preservative, of which often there are provings, and in others the process may even be antidotal.*

It has been found impossible to make a proving of diphtheria antitoxin, which is free from a preservative. Whether the same will hold true with the vaccines is not certain, but it would seem probable. Therefore hope of provings-the sine qua non of homoeopathic use-of modern sera and vaccines may be unavailing.

HOMOEOPATHIC PRESCRIPTIONS.

The first homeopathic prescriptions, of which there are numerous examples in the literature, are models. All that needed to be known. all there was to know-it may even be said all that could ever be knownregarding the application of the law was certainly known then. Modern homocopaths have the same heritage, and consequently when a sound homoeopathic prescription is made today it is similar -identical, in fact with those of Hahnemann's time. Hence growth beyond the entire mastery of the prescription art, as known to Hahnemann, is impossible, because of the fullness of the knowledge and the completeness of the rules to be followed which have been handed down, and also because of unchanging character of the provings-that is, the the permanent, materia medica.

Growth does occur in the individual prescriber up to the limit indicated. and also in the materia medica, by the addition of provings of new remedies and the reproving of partially proved old ones. Thus growth consists, as Hahnemann said, in the knowledge of diseases and the knowledge of medicines, both of which may be immensely increased, and by learning how to most accurately apply the latter to the former. In brief, true growth of homosopathic physician means increasing ability to apply the law.

GROWTH OF THE SCIENCE OF HOMOSOPATHY.

Is it not self-evident that the expectation of advance in the science of Homosopathy is based upon a misapprehension of the perfection of that science? When one considers its comprehensive therapeutics, the broadness of its scope, its entireness from the beginning, it is seen that advance, in the sense that other sciences advance and grow, is not only impossible, but undesirable. It is impossible for the reasons already given. It is undesirable because if such growth were possible Homosopathy would be an incomplete science, and hence not to be depended upon therapeutically. Fortunately the reverse is true, and the science itself is complete and permanent, while the art of applying it grows with the increasing skill of the individual physician.

The advantages to physician and patient of the entirety and permanence of Homospathy seem obvious.

To the physician, in that the fundamental therapeutic law changes not. He is not continually following therapeutic *ignes fatui*, and his success with the remedy in one case is not only a distinct help in the next therapeutic struggle, but always adds to his store of materia medica knowledge.

To the patient under Homceopathy, the permanence of the law is of incalculable benefit. He is made whole—or relieved, if that be all that be possible—in a more rapid, safe and lasting manner, and subsequent attacks are fewer and less severe—all because of the reliance to be placed upon a permanent and unchanging therapeutic law.

THE PERMANENCE OF HOMEOPATHY.

The history of medicine indicates that the homoeopathic law, known from the earliest times, has often been recognized—generally partially recognized, seldom admitted to be true, and but rarely appreciated. That it remains unchanged, after all this long century of successful application and result, is indubitable. With this in mind it is safe to ascribe its failures to individual incompetence.

The universality of the homoeopathic law is generally unrecognized, yet is a fact, and is of great import in relation to its permanence. This universality applies, of course, to abnormalities. When one abnormal condition is confronted with another abnormal condition of like quality the one neutralizes the other. This phenomenon is universal; hence it is law! Applied in all departments of life; otherwise it would not be law.

As an example of the wide application of this law let me cite the rise of socialism. Socialism has been defined as "an abnormal and irresponsible collectivism which threatens liberty and justice." This being so, what is the antagonistic abnormality—the simillimum for it? for a similar abnormality alone can cure.

In answer let me ask, is not corporate privilege for private benefit an abnormal and irresponsible collectivism threatening liberty and justice? The latter collectivism has engendered the former, and, according to the law, each tends to neutralize or correct the other.

The fact of the universality of the law if another proof of the permanence of Homosopathy.

HOMOPOPATHY IN THE FUTURE.

What shall be predicated of the future of Homosopathy?

Recognizing that the knowledge of homeopathic philosophy in Hahnemann's time was full and complete:

Recognizing that the best Homeopathy of Hahenmanu and his immediate followers; in a word,

Recognizing that the homeopathic law is permanent and unchangeable, what is the inevitable deduction?

It may be expressed by an equation in simple proportion—thus: Homeopathy in the past is to Homeopathy in the present as Homeopathy in the present is to Homeopathy as it will be in the future; the product of the means equals the product of the extremes.

Therefore a homocopathic physician one hundred years hence will select a remedy for a case in exactly the same way as it is selected now, and on exactly the same indications (symptoms) as are used now. The remedy also will be exactly as effective then as now.

What proof is there of this? No direct proof, of course; that would be impossible. But one is justified in inferring from the past of Homeopathy in its relation to the present of Homeopathy what the future of the science will be.

Confirmation is offered by diseases themselves, in that essentially they are the same as they were one hundred or more years ago. Modifications have occurred, it is true, from hygiene, sanitation, etc., but in general there is the same typhoid, the same scarlet fever, the same pneumonia, and even the same plague. A few may be less common, but their places have been filled by others, as witness the nervous disorders so frequent now. These new forms are as amenable to homocopathic treatment as the old ones were.

The claim that Homoeopathy is being discovered an w, from the modern, so called scientific side of medicine, and will be displaced thereby, is untenable. The infrequently repeated, somewhat attenuated dose of a disease product is not Homocopathy,-certainly not in its essence, any more than is the alleged specific action of large doses of horse serum. While such treatment runs the whole gamut between these two, it misses the central truth of Homœopathy. We may say to those exploiting modern isopathy: "There are more things . . . than are creamt of in your philosophy," and one of these is the proving of remedies upon persons in ordinary health; the absolute knowledge of what a drug will cause, and hence what it will cure. Not the empirical use of something -anything-the laboratory declares will act as a specific.

If Homeopathy is to be rediscovered, which it is not, one discovery being enough, though its truths may be confirmed to the satisfaction of its disciples and the enlightenment of unbelievers; if this so-called rediscovering is to go on there are many other things of more importance than the nosodes and the dose which should be considered. What are they? The reply is included in an enumeration of first principles in answer to the question, Homocopathy is what?

Homoeopathy is generally regarded as a system of therapeutics which has reference only to a certain principle, according to which disease is treated. But this is not all; as a definition it is defective. For a careful student of Hahnemann, or of his Organon and Chronic Diseases, will soon discover that the system of medicine with which Hahnemann's name is fundamentally linked is one not merely of therapeutics, but of pathology as well, and that a complete understanding of it must embrace a knowledge of Hahneman's view of the ultimate nature and cause of disease, as well as of the remedies by which disease is to be combated, and the principle or principles on which these medicines are to be selected. Consequently the sphere of Homoeopathy from this (the true) view point is extremely broad and far-reaching. Hence its teachings are not confined solely to therapeutics.

Thus, with a full understanding of homoeopathic fundamentals.

With a full understanding of the early complete knowledge of Homocopathy.

With a full understanding of the universal application of similia.

With a full understanding of and belief in the identity of homeopathic treatment in the past and in the present.

The reasons for its permanence may be appreciated; and, knowing them, with truth it may be said:

The science of Homocopathy—the same yesterday, the same today, the same forever !—The Medical Advance, January, 1913.

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THE UNDEVELOPED, ANTEFLEXED UTERUS AND THE STERILE WOMAN.

BY DEWITT G. WILCOX, M. D., BOSTON, MASS.

Nature has decreed that life and growth are inseparable; that decay begins when growth ceases; that the living structure which does not constantly produce new cells to take the place of the worn out ones is doomed to destruction. Similarly an organ which does not in the allotted time reach its full development in ultimate perfection is a dangerous organ because it is more likely to harbor in its structure freak cells which, under favoring conditions, are easily persuaded to become lawless and commit all sorts of crime against the body politic. Embryonic cells fall a much more ready prey to the cancer parasite than fully developed normal cells: an undeveloped or infantile uterus in a mature woman is not only a useless organ, and when she marries, and desires children, a disappointing one, but it is an actual menace to her because its very infantile state proclaims it is harboring embryonic cells which have not the stability to resist temptation but are apt to form an unholy alliance with. those anarchistic cells whose offspring is a malignant progeny. In the embryologic study of the human species, we find that the sexual gland which may become either an ovary or a testicle develops very early in feetal life, but the feetus still remains an

a-sexual thing until about the 5th or 6th week of intra-uterine life when the sexual glands begin to show their predilection for becoming either testicles or ovaries. It is, however, weeks after this question is settled before we see any signs of that all important organ to sexual life, the uterus. After the ovaries have been fully formed and the Fallopian tubes developed throughout their extent, we find a fusion of the lower ununited ends of the Fallopian tubes which produce a long, single tube-like structure, this latter develops into two segments, the upper part of which becomes the uterus and the lower the vagina.

Thus the uterus is not formed until about the tenth week of fætal life. By a study of the embryology of the female generative organs we are better enabled to understand why it so frequently happens that we find perfectly well developed ovaries and tubes but an undeveloped uterus. In fact, from an embryonic point of view it is scarcely possible for a uterus to be formed at all unless there be a previously formed pair of tubes: for it is by the fusion of the ends of these tubes that the uterus is formed, and the development of said tubes depends largely upon the development of the ovaries. Incidentally, this formation of the uterus by a coalescence of the tubes accounts for the anomaly occasionally found of double or bifurcated uterus or a double vagina. All this has a practical bearing upon the study of sterility in the female. In our search for a cause for such sterility it is rare that we find any defect of the ovaries or tubes—so far as developmental causes act.

When it comes to pathologic causes we find such to be very frequent factors.

Again, having the embryonic picture before us, we can more readily understand that the mature woman who has an undeveloped uterus is not in any sense an a-sexual woman. In fact, we find in the majority of instances a well developed woman in every sense of the word, with busts, hips and external genitals fully up to the normal, and possessed of a normal sexual instinct. We might almost be inclined to conclude, then, that the uterus really the least important part of the set which goes to make

up the female genitalia, because the last formed and because its formation depends solely upon the generosity and almost caprice of other structures. But why should we, as physicians, give ourselves any great concern over an organ which is not diseased, which, as a rule, is not painful, and whose failure to functionate becomes a matter of satisfaction rather than dissatisfaction to many women so afflicted? The answer is because the ultimate end spells disaster.

1st. Because, as already stated, any undeveloped structure is prone to undergo degenerative changes.

2nd. Because this woman who may at first have 'rejoiced because she had a physiological reason for escaping child-bearing, later becomes obsessed with the idea that happiness lies only in having children, and,

3rd. Because of neurotic changes so frequently induced by uterine disturbances.

My subject is, "The Antiflexed, Undeveloped Uterus and the Sterile Woman," and my reason for coupling these terms together is because in nearly every instance the conditions are co-existent. The practical question is: "Which state was the prime offender, what was the cause and what the remedy?"

The majority of writers state that the anteffexion came first, due to a relaxed state of the uterine supports, which flexion interfered with the normal blood supply of the uterus and thus an undeveloped organ resulted. My own theory is that the whole trouble is due to a developmental defect at the point where the cervix joins the fundus—as I shall endeavor to elucidate.

Nearly all authorities agree that it is a difficult matter to determine what is a normal and what an abnormal anteflexion. The normal uterus lies well forward resting upon the bladder, with the cervix pointing somewhat backward. The normal position is, in fact, more of an anteversion than it is a flexion. When the bladder is distended the uterus rises with it, and its relative angle to the vagina changes materially. But there are two factors which will in nearly every instance enable us to

render a just verdiet of guilty concerning the position of the uterus. Those factors are:

1st. Degree of angulation at the junction of cervix and fundus. While the normal uterus does lie well forward upon the empty bladder, there should not be any marked angle at this junction; and,

2nd. To avoid there being such angle the cervix must of necessity point backward in the vaginal pouch.

To determine, therefore, what is normal and what an abnormal position of the uterus we must settle those two points quite definitely. In the embryonic development of the uterus we noticed that there was a partial division of the tube making up the uterus at a point corresponding to the internal os. Soon, if this division is carried beyond the limit of the normal, there is bound to be more or less of a separation between the cervix and the fundus which gives rise to a sort of flail-like attachment between these two portions of the uterus with a resulting tendency for the fundus to fall helplessly forward while the cervix remains pointing downward.

This condition at once establishes an angle at said junction which produces two defects:

1st. A more or less closed cervical curve at this point; and,

2nd. A fundus which is unable to receive its full quota of blood supply because of compressed blood vessel—with a resulting atrophy.

The amount and rigidity of this angulation is really the determining factor in reaching the decision of an abnormal or normal flexion. Kelly speaks of the atrophic anterior wall and hypertrophic posterior wall in these cases of acutely anteflexed uteri due to pressure upon that branch of the uterine artery which supplies the anterior wall and the consequent diverting of the blood stream to the posterior wall.

In considering the impeded blood supply and the consequent atrophy of the uterine walls, we must next consider the endometrium. It is a pathological fact that nearly every acutely anteflexed undeveloped uterus has a diseased endometrium. This

fact leads to frequent allusions of the early writers to what they describe as membraneous dysmenorrhœa. We will find many pages in the older text-books and some even in quite recent ones devoted to the cause and treatment of this so-called disease. But with a better understanding of the causative factors we see membraneous dysmenorrhœa in an entirely new light. becomes nothing but an atrophic or hypertrophic endometrium according as the blood supply to the uterus is affected. supply has been materially diminished, the endometrium will be pale, anæmic, thin and having few villi with which to hold and detain either the impregnated or unimpregnated ovum, hence it becomes in itself a factor for sterility. Such a membrane is easily shed off, comes away with the menstrual flow, causing pain according to the amount of stenosis or extent of the mem-In such cases the flow is usually slight, pale and lasts If, on the other hand, a portion of the but a day or two. uterine wall is hypertrophic because more blood has been diverted to that part than to another owing to the flexion of the uterus. then we get a hypertrophic endometrium. It becomes fungoid in character, bleeds readily, is easily shed off; while it has numerous villi, yet they are unstable and are easily broken down to come away with the menstrual flow, with the same result, sterility.

In such cases we also have a so-called membraneous dysmenor-rhoea—but our patient flows more profusely—sometimes to the point of an alarming hamorrhage.

Thus far I have said nothing about the uterine supports which are so generally blamed for all kinds of uterine displacements. While there can be no question that backward displacements are the result largely of indifferent or defective uterine ligaments, yet I am of the opinion that they do not play so important a part in anterior displacement.

We have already noticed that the normal position of the uterus is to ante rest well upon the bladder. The normal uterine supports allowing this and even in an exaggerated anteflexion the fundus does not lie much if any lower than in the normal, hence

its real position cannot be due to a relaxed state of the ligaments. But there is one set of ligaments with which we must reckon and those are the sacro-uterine ligaments.

These two ligaments arise from the second and third bodies of the sacrum, extend forward and downward, passing on either side of the rectum to which they give attachments, then forward to the nterus where they are inserted into that body about on a level with the internal os.

Supposing we had an abnormal or congenital shortening of those ligaments. The result would be a lifting up of the uterus at the point of their attachment. Such a shortening of the sacro-uterine ligaments would, very much like that of lifting a boy by the seat of his trousers, tend, in the normally placed uterus, to accentuate the angle of flexion, especially so if the round ligaments were at all short or inelastic. The only part, therefore, which the ligaments would play in producing or allowing acute anteflexion would be such a defect as noted.

Having now in mind the embryologic formation of the uterus and the possible causes leading to its arrested development, what is the remedy? This is the problem which has for years confronted the gynæcologist, and in which he has met with rather indifferent success.

The recognized treatment has been cervical dilatation under ether, curettage, packing stem and ring pessaries, massage, electricity, gymnastics, etc.; all good in their way and many times attended with success, but in a greater number of cases failing. As I have pointed out, the majority of these patients are fine specimens of physical development. Hence, hygienic treatment is not called for in such cases. A thorough examination under ether is the first essential, and if the symptoms as elicited by the history seem indicative of such trouble it is wise to be ready at this etherization for the operative measures necessary. At this examination one would determine the relative size of the fundus, its position and expectability. He would determine the angle formed by the cervix and uterus and how flexible that angle was, the would determine the position, length and movability of the

cervix. He would determine whether in moving the fundus the cervix moved correspondingly or whether the fundus moved flail-like as though indifferently attached to the cervix. Then he would determine the patency of the external os, the cervical canal, the internal os and the depth of the uterine cavity. He would ascertain by a little careful use of the curette the condition the endometrium, whether vegetoid, engorged, ulcerative or anæmic. He would also examine the sacro-uterine ligaments and determine if they were contributing factors of the angulation.

Having settled all these points, he is ready to act. It goes without saying that in making such an examination, particularly under ether, one should determine in so far as possible the exact condition of ovaries and tubes, but as we are concerned with the uterus only we will omit all reference to other structures. As we have not the time to follow up the treatment for the many conditions and combinations of conditions which we may find on examining these imaginery cases, suppose we take one or two typical ones.

First the question is, "At what age should the treatment begin?" As the defect is a developmental one, we cannot begin too early to correct it, but unfortunately we have little opportunity of knowing that such a defect exists until after puberty,... and even then we are not likely to be consulted because of the very prevalent belief that all maturing young girls must have more or less dysmenorrhæa and an irregular menstruation. If, however, we are consulted early and can determine by such an examination as just outlined the fact of an infantile uterus, appropriate treatment such as will be outlined later should be instituted at once.

First, let us take the case of the woman who has always been well except for a distressing dysmenorrhoa. She is well developed, good color, good mentality. Married with the full intent of having children and the hope of getting rid of her dysmenormoa. Three years have elapsed and she has been disappointed in both, through no fault of hers. As three years seems to be

the time limit for evidence of fecundity, we must now regard her as sterile.

An examination discloses a fundus so small in relative size to the patient that it must be classed as infantile. It is bent forward in the cervix at an acute angle of between 45 and 90 It may be on a lower plane even than the cervix itself. While it is freely movable, yet the cervix moves with it without in the least changing the angle of union. It may be pushed backward so that it becomes a retroversion and yet the relation of fundus and cervix has remained unchanged. fundus is so small as to be infantile, yet the cervix is near normal in size, it is somewhat elongated and points downward. tinct constructive ring is easily palpable at the juncture of cervix and fundus, as though the two had been artificially joined. The insertion of a uterine sound shows a ready admission into the external os and through the cervical canal, but there it stops and only dexterous coaxing with some force will induce it to pass into the cavity. Through the missing of a cog, nature has failed to arrest the partial closing of this tube where the fundus and the cervix join, and has almost made two distinct organs of them: the one through lack of sufficient blood supply has not kept pace with the other in its subsequent development.

What is the treatment? Obviously the first desideratum is to get an opening of sufficient caliber to connect the cervical canal with the uterine cavity. This is essential for two reasons: First, to establish normal drainage and thereby lessen the chances of an auto-infection of the uterine canal which, as Kelly points out is of very frequent occasion in such cases; and, second, to straighten up the uterus and overcome the angulation. But at once the question arises: "Will so immature a fundus possess an endometrium sufficiently mature to hold and detain long enough to become fertilized an ovum, and if so has it the power to build up a villus wall about that fecundated ovum so that it will not escape the minute it begins to swell with its own importance?" The answer is: "No, it has not such power." Then simply tunnelling a hole through the impervious internal bs will

not cure the patient of either her sterility, her dysmenorrhom or her undeveloped uterus. What will do it? The answer to that is the excuse for writing this paper.

A muscle which has remained dormant for years through nerve innervation or lack of blood supply cannot be rejuvenated at one sitting and expected to do full duty the moment it is given nerve impulse or red blood corpuscles. It must be educated up to its requirements and that education may be a matter of patient, persistent work of many months. No more can a uterus which has lost twenty years or more of normal nourishment be expected to regain that loss in a few moments or a few weeks. It becomes more frequently a matter of a few years.

So in this case, while the first thing to do is to dilate the canal under ether, curette it if need be and pack it so full that the canal becomes perfectly straight; yet this is but the very first step in a long, persistent treatment if we wish to effect a cure. If the stenosis is so marked and the uterine tissue is so non-elastic as to defy dilatation, then it becomes necessary to cut the stricture and treat it much the same as a urethrotomy, but it is only the rare cases where such a procedure is required.

To those who have treated mang cases of stricture of the urethra by the passing of sounds I need not speak of the patience required in following up each case of stenosis of the os uteridue to an acute flexion of the canal; the difference being that in the urethra but one object is sought, that of creating and maintaining an open canal, while here not only must the canal be maintained against a constant force to close it, but an organ must be grown and developed so that the canal will become of some use.

The next step, therefore, with our imaginery patient is to remove the packing at the end of forty-eight hours, dry the cavity and reinsert the packing for another forty-eight hours, our patient in the meantime remaining in bed or at least on a couch. After the next removal of packing the patient is instructed to come to the office for futher treatment, which consists of dilating the entire length of the cervical canal to a point beyond the

internal os. This should be done just as fully as the patient can endure it. No packing is inserted at these office treatments. Our patient is now instructed to return every third day except during the menstrual period. During the first two months she must average two calls a week. For the next two months, per haps one call a week; for the next three months, every other week, and so lessening the frequency of the treatments.

The index of progress being the lessened dysmenorrhoa, the patency of the canal, the overcoming of the angle of flexion and the increasing size af the fundus. Naturally we must bear in mind the possibility of pregnancy taking place during these treatments and govern ourselves accordingly. It is more than likely that we shall find at the end of some months of faithful treatments that but little has been accomplished, that the uterus persists in bending over in its old faulty position, and the infantile fundus does not wake up and develop.

It is here then that two other curative agents claim attention—electricity and massage. Inter-uterine galvanism has been very helpful in inducing an increased blood supply to the parts and thereby aiding materially in building up the uterus. These applications can be given as we dilate: in fact, the uterine electrode will act as the dilator. In using galvanism the positive electrode is placed over the abdomen and the negative in the uterine canal. About 50 milliamperes can be given two or three times a week.

The massage consists of a sort of bi-manual movement in which the lower edges of the broad ligaments carrying the uterine arteries are manipulated with a movement toward the uterus from either side. If it has been found that the sacro-uterine ligaments are short and inelastic they can be lengthened by a persistent massage. We may be able to add materially to the uterine development by this method. It is after six or nine months of these treatments with but slight improvement that the real test of perseverance and belief in one's theory begins, for the average patient is built to hold on for just about so long and then her faith weakens or her visits cease. Now is the time to

remind her of the agreement that she was to follow the treatments at least one year before she gave up, and if we can infuse a little more courage and confidence we may win out in the next few months.

Other methods failing, we will now allow her to wear an anteflexion ring pessary for a few months, with the hope that the lifting power of the pessary may aid the blood supply and thereby help in accomplishing the results.

I am of the opinion that the stem pessary or the otterbridge dilator is of little benefit in these cases, for usually the easiest part of our work is to keep an open canal. It is in the establishment of a required tone in the uterus, and especially in the endometrium, that the real battle is waged, for until this endometrium has been brought to that degree of development sufficient to hold and supply nourishment to an impregnated ovum, the cure has not been effected.

This treatment which I have outlined is one which I have employed at my North End clinics amongst the Italian and Hebrew women, where I see from twenty to thirty every week. Amongst these women it is regarded as an unpardonable sin to be a wife and not become a mother as soon as nature and respectability permit, but to be married three years and have no children is unthinkable; hence I have had ample opportunity to put my theories to a practical test where the sterility has depended only upon an auteflexed and undeveloped uterus. While there is nothing radically new in the methods given, vet the combination suggested and especially the persistency advised is the key-note to any success that may be obtained in this most obstinate condition. Furthermore I claim priority in demonstrating the pathology of these conditions as the analogy between the embryonic development of the uterus, and the pathology of the undeveloped uterus has not, to my knowledge, been touched upon.

In taking a case of this character in private practice 1 seek to impress upon the mind of my patient the fact that unless she will agree to place herself under my direction for one year I will not take her case in hand. While such a policy is rather difficult to pursue in dispensary work, yet it can be done by giving very explicit directions as to the length of time required. After following this method for some years I was much interested to read in a recent number of the Journal of the American Medical Association an article from Dr. Bevan, of Chicago, in which he advocated practically the same procedure.

He said he had abandoned all other forms of treatment, even that of cutting the canal, and now relied for a cure entirely upon dilatation under ether followed by the persistent office treatment as outlined. While I have emphasized in this paper the conditions of sterility, yet I would not be understood as saying that an anteflexed or undeveloped uterus was the sole cause of such condition. It is probably the most frequent cause aside from infective diseases of the pelvić organs. It goes without saying that no wife with supposed sterility should be considered sterile until the husband has passed muster as to his virility.

In closing I would seek to emphasize the following points:

First: An anteflexed uterus in a nullipara is in nearly every instance an infantile uterus.

Second: An infantile or undeveloped uterus is in a mature woman a menace because of the likelihood of its becoming malignant.

Third: Such a uterus is generally responsible for dysmenor-

Fourth: An undeveloped and anteflexed uterus is generally a sterile organ.—The Journal of the American Institute of Homao-pathy, March, 1913.

HOMEOPATHY AND ASTHMA.

BY HAROLD FERGIE WOODS, M.D., M.R.C,S., L.R.C.P.

Assistant Physician to the London Homeopathic Hospital.

By asthma I am referring to the true bronchial or spasmodie variety. Asthma is at once one of the most distressing diseases it is possible to suffer or to witness, and it is in allopathic circles avowedly a difficult one to treat. One authority says: "Genuine asthma is but rarely completely got rid of. If the disease is established in middle life, structural changes ensue of a permanent character." On the other hand, by homeopathy asthma may be regarded as one of the most satisfactory diseases to treat. for two or three reasons. One reason is its very difficulty, abovementioned, of response to allopathic treatment, as in its early stages it responds so readily to the homeopathic remedy. It. therefore, affords a most marked contrast of the efficacy of the two modes of treatment. Again, because the symptoms of the disease are so distressing and so pronounced, one knows at once if one has prescribed the right remedy, so that one need not wait long, as in some other chronic diseases, to see if the remedy is the right one.

Another reason why I think asthma is so satisfactory to treat homogopathically might not perhaps appeal to everyone—that is, it exemplifies more than most diseases the truth of the homogopathic principle that each case of disease must be treated on its own merits, and the medicine must not be given because the disease is asthma. In other words, one must in asthma preeminently treat the patient and not the disease. I have found that nearly every case of this disease needs a different remedy.

If each ease of asthma is worked out on the general, mental, and peculiar symptoms, it is rarely, in my experience, that one will have to go beyond the polychrests for a cure. I have practically never had to use any of the more or less "specific" remedies that are usually associated with asthma, e.g., sambucus, lobelia, quebracho, and the like. No doubt these remedies will come in once in a while, when the better known remedies fail.

Even the orthodox school recognize the importance of treating

each case of asthma on its own individual merits, but being without a law to guide them, they have to try each remedy in turn until perchance they hit on the right one.

Thus, the following extracts from allopathic text-books will show their attitude toward the treatment of asthma. "The physician must find out what is most suitable to the case. One form of medicine benefits one patient, another form another patient." Again, "In the use of antispasmodies, we must avoid judging the effects of one from the failure of another of the same class; but in difficult cases we must try each in succession, for it often happens that the successful remedy is only arrived at after repeated trials." So much for treatment based on chance, as compared with that based on law.

As is the case in most diseases, the medicines that the allopaths have come to regard as "specifics for asthma have something of homœopathicity about them. Potassium iodide, which is given in most text-books as one of the first drugs to try, has these symptoms recorded in "Hering's Guiding Symptoms": "No air enters the lungs, face livid"; "Oppression of breathing, awaking patient in the morning hours"; "Asthma in young people." Arsenic, another allopathic standby, has of course many asthmatic symptoms in its pathogenosis.

All asthmatic patients have at some time or other sought relief in some of the many "Asthma cures," which are in the form of cigarettes, or a powder or paper to burn. These usually contain nitrate or chlorate of potash, and are often very efficacious in relieving the asthmatic spasm.

Kali chlor. I do not think has been proved homocopathically, but kali nit, has undoubtedly symptoms resembling asthma in its provings, e.g., "distressing dyspnoea; cannot lie with head low," "wants to be fanned to keep from suffocating." So that where one of these "asthma cures" containing potassium nitrate is of real and lasting benefit, it may quite well be due to its homocopathic action. And while on the subject of these asthma cures," I should like to ask the opinion of other members as to whether, in their experience, the use of these palliatives

by patients undergoing homeopathic treatment for their asthma at all interferes with successful results. One can hardly forbid absolutely the patient seeking relief till we are able to effect a cure, and it is even a question whether the exhaustion caused by going through an attack unaided by these palliative measures is not more prejudicial to the patient's power of response to homeopathic medicine than if he is allowed to seek the relief that he knows he can get from these patent remedies.

Now as to the homosopathic treatment of asthma. How are we to find the remedy if the patient has no marked general or mental symptoms? Well, the time of the attack is nearly always regular and definite, and the time modality is one of the most important modalities we can have. The time of occurrence of the attacks will generally bring two or three remedies to one's mind immediately. For instance, there is the aggravation just after midnight of arsenic, the 3 a.m. of kali carb., the 4 a.m. of nux vomica, &c. Then we must notice the other modalities pertaining to the attacks, e.g., whether eating relieves or aggravates; the effect of heat and cold, &c. Only do not attach any importance to modalities peculiar to the disease, e.g., relief from sitting up in bed. Such have no value at all in finding the remedy.

Then notice the accompaniments of the attack, e.g., great anxiety, fear of death, but do not lay stress on such a symptom as this unless it is very well marked, as anxiety is a normal feature of the asthmatic attack.

Finally, take note of any other rare and peculiar symptoms. If necessary, examine the past history and family history of the patient, inquiring about suppressed eruptions or sweats and bad vaccination arms, and asking if there is phthis in the family.

When the remedy is found, give it in single dose, and don't be in a hurry to repeat.

I will now give a few cases illustrating the homoeopathic treatment of asthma, showing the need for different remedies.

L.S., a gentleman aged 34. Asthma for a couple of years. Seen various well-known specialists, and received a corresponding variety of advice and treatment. The only "general" obtainable was a lack of vital heat. The attacks came on at 10 or 11 every night, unless he was in the House of Commons (he is an M.P.), or was otherwise mentally occupied. The attacks were worse from change of weather, especially change to frost, worse from damp air, worse when mentally depressed, worse from pastry, nuts, suet puddings (common symptom). No anxiety in the attacks. He had a defleteed septum nasi. On May 5, 1912, I gave him one dose of phos. 30. On May 17, he wrote, "Have had no asthma since I took the powder, except on Tuesday, and this was due to a hasty meal. I do not recollect when I have been free, in London, for so long a period before." June 2, signs of asthma again. Phos. 30, one dose. July 17, wrote that the socond dose had not been quite so effective as the first. Slight asthma every other night. Phos. 200 one dose. September 4. slight return. Phos. 200, one September 22, signs of asthma again. Phos. 1m. one dose, after which the asthma was worse for a week, then better. Since then he has had a dose of the lm. or 10m. every two or three months as necessary, at lengthening intervals, and I am hoping he will soon be quite cured.

Mrs. S., aged 72. Could get very few symptoms out of her. The asthma was worse in the early morning, about 3 or 4, worse after food, worse from the least draught, though the dyspncea continued day and night. The patient herself was very sensitive to the cold. These symptoms, though few, are definite, and led me to give nux vomica in the 200th every three hours till next day. She had a very bad night, so received no more medicine. Next day she said that she felt better in three days than she usually did in six weeks after such an attack. continued to improve for a fortnight, when the nux was repeated (it is not a very long acting remedy), and she was soon enabled to get about again.

Miss J., aged 40. Has had much treatment for nasal polypi and antrum disease. She woke with a cough and dyspnœa between 1 and 4 a.m. She was a chilly patient. Worked out by

Miss Tyler's repertory cards, ars. 1 lyc., phos., and puls. came out, and as she had many symptoms rightsided, and what I took to be other symptoms of lyc., I gave that remedy-with very little result. On looking over the case again and getting a few more symptoms, e.g., worse especially from 12 to 1 a.m., worse talking, worse eating, relieved by warm drinks, I gave ARSENIC, in the 30th, and she began to improve at once. Ars. of course is right-sided as well as lyc., but I may say here that I have since learned not to lay too much stress on the side of the body affected. Ars. in higher and higher potencies kept this patient improving, the last dose being a 50m., since when I have not heard from her, so conclude (perhaps egotistically) that she is keeping better.

In another case, presenting the typical generals and mentals of lycopodium, this remedy proved to be the right one, and after going up the potencies, the last being the 10m., she remains free from asthma.

Mrs. G., aged 32. Asthma and bronchitis for years, worse in the night or early morning (no definite time), worse in damp or hot weather, better in cold (east winds suit her well). The patient is worse from heat, though she feels the cold more now than formerly, takes cold very easily, is worse in spring and autumn. I gave her sepia first. She looked like sepia and was worse from consolation. But I was wrong. Going more on the aggravation from heat, and on the indefinite time af the attacks, and in fact on the paucity of any definite deciding symptoms, I gave sulphur 200. She began to improve at once, and is doing so still, under the same remedy, in ascending potencies, receiving the last time the 45m. She is improving in general health too and taking cold less often.

I may say here that in asthma the first indicated remedy seems to continue to act longer, without beeding to be changed, than in most diseases. One can keep raising the potency until the highest is reached, then begin again at the bottom. To end up with a failure.

E. H., boy, aged 8. Asthma since 4, worse at night, relieved

by motion, relieved in damp weather. Patient is not worse from heat or cold, wants open air. Very highly strung. Fond of company. Used to crave salt. Phos. began the treatment, with no good result. Then going largely on a family history of tuberculosis, I gave tuberculin 30, one dose. Improvement began at once, continuing for fifteen days, when the asthma returned. I repeated the tuberculin 30, giving the bovine this time, and improvement again followed. After that he had this remedy in the same potency weekly, and continued to improve. Then he suddenly failed to respond to it any more, in the 30 or higher potencies. Various other remedies were given, but he got worse and worse, losing flesh, and only obtained relief by going away to Arosa, Switzerland, which has always before stopped the asthma at once. Did I repeat too often?

Notes on the Pathology of Asthma.

The pathology of asthma is very little known. The attacks are clearly attributable to some obstruction of the minute bronchial tubes, and the prevailing view is that the obstruction is due to spasmodic contraction of the bronchial muscular fibre, i.e., spasmodic asthma, which contrasts with the popular use of the term asthma, for every kind of dyspnæa, especially chronic bronchitis and emphysema. The disease has also been attributed to the vascular swelling of the bronchial mucous membrane, the fluxionary hyperæmia of German authorities. Sir Andrew Clark considered there was as erythematous swelling over the mucous membrane of the bronchi. The sudden development of the symptoms, and the comparatively rapid subsidence in many cases, are in favour of it being of a spasmodic origin.

The sputum in asthma consists of cylindrical and ciliated epithelium, Curschmann's spirals and octahedral crystals, and the Charcot-Leyden crystals. No bacteria can be definitely associated with the disease. Dixon and Brodie brought forward very strong evidence in favour of the spastic theory by experiments on the lungs of dogs: they proved that vagus stimulation could produce rapid arrest both of entry into, and of exit of air from, the air sacs, as again the state of over-distension of the

organ. They show also that those drugs which are of service in asthma are just those which by experiment they determine cause paralysis of the nerve-endings, and point out that ether, which is of great benefit in asthma, causes hyperæmia of the mucous membrane and increased secretion from the bronchial glands. Auer's observations upon the anaphylactic spasm of the bronchial muscles of the guinea-pig are very interesting, and it is evident that the asthmatic condition can be experimentally produced.

Carter regarded asthma as a neurosis affecting the nerve centres of the medulla which preside over the respiratory mechanism and the blood supply to the lungs. A special excitability of these centres, and a liability to disturbance inherited or acquired. must be assumed as an essential factor in the etiology of asthma under all circumstances. Authorities mostly agree in attribuing the immediate cause of the attack to obstruction in the finer bronchi. Two conditions are put forward as responsible for obstruction: spasm of the bronchial muscular coat: engorgement with swelling of the mucous tract through vaso-motor agency. The simplest cases are those which depend on some mechanical irritation by introduction of dust, pollen, &c.

Other causes may be mal-aerated blood to the medulla, blood deficiency, peripheral irritation, from the bowel or stomach. Another type may be that of nervous disease of so-called functional origin, i.e., spasm of bronchioles and arterioles. It was proved by Lawrence that by holding the breath during a paroxsym the attack could be aborted, presumably of the nervous It has been shown that if contraction of the bronchioles be brought about in ox, dog or rabbit, by electrical and chemical stimuli, an asthma can be brought about. The muscular coat is more abundant in the smaller bronchioles than in the larger ones,-The British Homeopathic Journal, July, 1913,

EDITOR'S NOTES. Ether in the Tropics.

It is a widely held opinion that in tropical climates ether cannot be used as an anæsthetic. Very often the reason offered for not using ether is that "chloroform is so safe out there," but close questioning may lead to the conviction that safety of chloroform is sometimes synonymous with imperfect anaesthesia for native patients. We very much doubt whether chloroform unscientifically administered to a deep degree of narcosis is less dangerous in India, say, than it is in England, and we are inclined to be equally sceptical as to the impossibility of employing other. The temperature of operating theatres in Europe is fairly high. The artificially heated theatre here should not, we imagine, be much cooler than the artificially cooled theatre in a tropical country. Ether is freely used by evaporating methods in European and American operating theatres, and probably could be equally employed in many places where it is at present regarded as taboo. We are strengthened in this opinion by an article in the Bulletin of the Manila Medical Society (February, 1913). This is from the pen of the anæsthetist to the Philippine General Hospital, who writes with an experience of 19 months in Manila, during which time there were some 1600 cases. The writer remarks that it was surprising to find ether being very satisfactorily administered in Manila. She (for the writer is a woman) went from Chicago, where opinion as to the use of ether in the tropics is much the same as that to which we have referred above. Guided by what she saw, slie instituted the giving of ether by the drop method, to which she was accustomed at home. This she finds quite satisfactory with the proviso that considerably—in her opinion from 15 to 20 per cent.—more ether is required per patient than in cooler climes. The only real difficulty, as might be anticipted, is in the storing ether. The tin cans so commonly employed in America were not sufficiently air-tight and much evaporation of ether took place from them. The ideal vessel she describes as a glass container. The boiling point of ether is about 95°F, and it should not be difficult in many tropical places to store ether where this temperature would not be reached, nor to procure it in bottles that would allow no leakage if so stored .- The Lancet, May 3, 1913.

The Title of "Doctor."

Until the end of last year a by-law of the Royal College of Physicians of London ran thus: "No Fellow, Member, Extra-Licentiate, or Licentiate of the College shall assume the title of Doctor or append to his name the title of doctor of medicine, or the letters of M.D. or any other letters indicating that he is a graduate of university, unless he has obtained a degree entitling him to do so." By a resolution of the College passed on Dec. 12th of last year the words in italics have now been omitted. It is doubtful whether the full bearing of this change has been appreciated by the Licentiates. Hitherto they have been under a certain disadvantage-namely, that although they had passed a good qualifying examination vet if they did not also possess a university degree entitling them to do so they were forbidden to take the designation of doctor. alteration of the by-law removes this disability, and they are now permitted to style themselves Dr. - - on doorplates, visiting cards. and so on, if they wish to do so. It must be distinctly understood. however, that this is only a courtesy title, or perhaps it might be termed an occupation or professional title, as distinguished from "doctor of medicine," which is an academic title. Nevertheless. we feel sure that the removal of the restriction to assume the title of doctor will be greatly appreciated by many of those directly concerned. Previously the distinction between practitioners who did and did not hold university degrees was rather an invidious one, as it tended to the idea that their professional skill and knowledge were similarly unequal, which was by no means necessarily the case; now without fear of any reproach for using a forbidden term the Licentiates of the Royal College of Physicians of London can adopt the professional title which is generally understood by the public to indicate that they are duly qualified practitioners of medicine.— The Lancet, May 3, 1913,

Fatal Tobacco Poisoning.

In the Cleveland Medical Journal for February Dr. E. C. Garvin has reported a case which should be a warning to a practitioner who might in a unguarded moment give his consent to the use of tobacco infusion as a remedy for intestinal worms, for which it has an old reputation among the laity. A healthy female child, aged 6½ years, who suffered from threadworms was given by her mother an enema of one pint of water in which were suspended one and a half tea-

spoonfuls of tobacco. The child immediately complained of faintness and nausea and soon commenced to vomit severely. The bowels acted, and at least part of the enema was expelled. These symptoms continued for 15 minutes, and then convulsions occurred for about 20 minutes. The child then became quiet and died in collapse about 45 minutes after administration of the enema. Cases of fatal tobacco poisoning are very rare.—The Lancet. May 10, 1913.

Hydrogen Dioxide in Local Anesthesia for Dental Work.

G. Mahé and P. Vanel report the results obtained with an anesthetic mixture consisting of equal parts of five volume of 'hydrogen dioxide solution and one per cent. cocaine or four per cent. novocaine solution. The chief advantage of such mixtures is avoidance of the untoward effects of epinephrin, while the bloodless operative field, and increased anesthetic power of cocaine or novocaine effected by epinephrin are nevertheless retained. The injections should be made superficially and slowly, with a tepid solution, and stopped as soon as the tissues become pale. The solutions referred to are especially indicated for the extraction of teeth in nervous individuals, children, old persons, diabetics and pregnant women. The New York Medical Journal, May 24, 1913.

The functions of the Pineal gland, with report of feeding experiments.

Preliminary researches on the functions of the pineal gland have been made by Charles L. Dane and William N. Berkeley, which seem to prove that this gland is the vestigium of a special sense organ of vision in invertebrates and certain low vertebrates, while in man it has practically lost all the structural characters of a sense organ and has those of a glandular body undergoing some involution at about the seventh year. The writers believe that in the early period of life it influences bodily nutrition, including the development of the genital organs, the deposit of subcutaneous fat, general growth, and mental progress. Extracts of the pineal gland of bullock, when injected into the veins of dogs, do not affect the blood pressure. The same extracts when fed to babies cause an increase of metabolic activity, as shown by an increase in nitrogen elimination by the urine. A case of tumor of the pineal gland reported by the waiters would seem to show that in adult life entire destruction of the gland

does not affect metabolism. Feeding experiments with the use of bullocks' pineals, perfectly fresh and rubbed up with milk sugar till extinguished, have been made by H. H. Goddard and W. S. Cornell in the cases of about fifty children, divided into twenty-four groups. They found that in certain cases of retarded development in children pineal gland was a remedy of value. Their explanation of its action, although entirely hypothetical and on account of the minute amount of it in a normal individual, is that the secretion of the gland acts as a ferment, or catalytic, facilatating the exchange of nutrient material in the brain cells. Where total idiocy and gross physical defect presented, the gland was without effect; in proportion as the patient is less characterized by physical stigmata, the greater benefit is reaped from pineal medication.—The New York Medical Journal, May 24, 1913.

The Carbohydrate Treatment in Diabetes.

Hermann Strauss explains that this treatment consists in the use of one sort of carbohydrate in nutrition, to the exclusion of the other sorts: aiming at the diminution of the glycosuria and an increased The other (noncarbohydrate) articles of diet may be occasionally varied, but, as it is desirable to reduce the quantity of protein, meat is not gievn and only a small quantity of albumin. one time it was thought necessary to replace the sugar lost in the urine of diabetic patients, and this gave rise to the milk cure, which occasionally gives very good results, especially when the form of diabetes is neurogenic. The milk method acts well as it is a form of low diet, because with many people the milk sugar is so slowly split that it is only gradually absorbed by the bowels, and because through the Karell method the milk allays both hunger and thirst. The albumin of milk, moreover, is not an irritant. Withal, it is necessary that due regard be taken for each individual case, as the tolerance for milk varies greatly. The rice, the potato, and the oatmeal treatments are outlined and discussed by the writer, and also his recent use of inulin. A certain quantity of carbohydrate agrees with the diabetic patient better the more slowly it is absorbed. estimating the tolerance of diabetes to inulin notice was taken not only of the glycosuria but also of the acidosis. In grave cases it was found that inulin was better digested than the same quantity of wheat flour, and that in most cases the acidosis was markedly diminished during the inulin period. The various modes of exhibiting inulin are detailed by the writer, who adds that a carbohydrate treatment can only be used periodically, and then only in grave cases of diabetes; the lighter cases being treated both on the old and tried methods. Rational therapy demands that we find not only that preparation of carbohydrates, but also that sort of carbohydrate of which each individual patient can tolerate the greatest amount without secreting a large quantity of sugar. While this complicates the dietetic treatment of diabetics, it also makes for greater success.—The New York Medical Journal, May 24, 1913.

A Medical Poet Laureate.

Many docors have been poets; a thing which is not unnatural considering that Apollo was a god of healing as well as leader of the Muscs. The Times remarks that there have been few medical poets since Goldsmith. We must not, however, forget those we have had. We are especially proud of Keats; Thomas Gordon Hake has been considered by some critics as one of the greatest of Victorian poets, and we many claim a share in Francis Phompson, though he never finished his studies. But this is the first time, we believe that the bays of the official poet of the Court and of the nation have been placed on the brows of a physician. Mr. Robert Bridges, whose appointment as Poet Laureate has just been approved by the King, was a practising doctor for several years. Born in 1844 and educated at Eton and Oxford, he studied medicine at St. Bartholomew's, and took the degree of Bachelor of Medicine at his university in 1874, and was elected a Fellow of the Royal College of Physicians of London in 1900. He was Assistant Physician to the Children's Hospital, Great Ormond Street, and Casualty Physician to St. Bartholomew's Hospital. He retired from practice in 1882, and has since devoted himself to poetry. His productions are cast in a severely classical form, the beauty of which can be adequately appreciated only by persons of the highest culture. Dr. Bridges would probably say with Wordsworth, one of his predecessors in the post of laureate, "Meet audience let me have though few." poetry is warmly admired by the most competent judges. He has not courted popularity. This year, for the first time, we believe, a collected edition of his poems has been published, and this will serve to make his work known to many whom it has not yet reached. lovers of true poetry must delight in his perfect artistry. profession will fully join in the general expressions of approval with which the appointment has been received. -The British Medical Journal, July 19, 1913.

Dean Swift on Madness.

That Dean Swift was mad towards the close of his life there can be little doubt. He sat brooding darkly, withdrawn into himself. A visitor to whom he offered wine and the uncivil advice to be moderate in his use of it might have found him mad where others found him sane, but his reason, on the whole, had failed him. It is curious to find with what gusto the great Dean writes of insanity on many occasions. There is, for instance, his well-known digression in "A Tale of a Tub" concerning "the original, the use, and improvement, of madness in a common-wealth." "If," says he, "we take a survey of the greatest actions that have been performed in the world, under the influence of single men, we shall find the authors of them all to have been persons whose natural reason had admitted great revolutions from their diet, their education, the prevalency of some certain temper, together with particular influence of air and climate it is of no import where the fire was kindled, if the vapour had once got into the brain." Later, he speaks of the value of this vapour to enthusiasts and fanatics. "Of such great emolument is a tincture of this vapour, which the world calls madness, that without its help the world would not only be deprived of those two great blessings, conquests and systems, but even all mankind would unhappily be reduced to the same belief in things invisible." We might, however, set against this last statement the fact that man has always tended to believe in the invisible, in a life after death, and the ultimate conquest of good over evil. Too clear a view of the rationale of this grim universe would have driven whole generations of men to despair and to suicide, as it drove that strange materialist, John Davidson, not many years ago. Davidson, a most amiable and gentle writer, drowned himself deliberately because he had come to the conclusion that mankind, a terminable and evanescent phenomenon, is God in process of evolu-Swift devotes many pages to the effects of the vapour of madness upon mankind. Every species of it proceeds from a redundancy, but it is always produced in the same way-by a rising of the ingenious particles with the vital liquor, producing "an abstraction of the rational part of the soul, which we commonly call madness." |Swift's correspondent, Henley, notes that talking to oneself is esteemed a sign of madness. "Pray, doctor, let me know whether writing letters be talking to oneself." Swift, however, quotes an Irishman as saying that the difference between the sane and the insane in conversation lies in this, that the lunate blurts out

whatever comes into his mind "just in the confused manner as his imagination presented the ideas." The sane, on the other hand, he said, weigh their utterances. Swift writes of the madness of nations and its causes, and cites what he believed to be the long insanity of the Puritan Revolution, but his own diseases he cannot diagnose. His deafness, believed to have been caused by disease of the semicircular canals, he attributed to his excessive eating of apples, of which he once consumed about 120 in a day. in his "Journal to Stella" his almost daily struggle to eat fewer apples. His deafness was doubtless contributory to his insanity. He was stone deaf for a year or so before he died, and at the same time utterly silent. During his last period of mental gloom the Earl of Orrery writes to a friend bewailing the overclouding of the once brilliant intellect, and notes with what horror Swift, himself persecuted at the last, had always regarded the madness that in individuals has been the result of persecution. Perhaps with premonition of his own fate Swift left his fortune to endow a madhouse, -The Lancet, March 29, 1913.

The Declining Birth-rate in Germany.

The declining German birth-rate is a subject which has already for some time been engaging the active attention of the authorities and it is generally recognised that the question has become one of national importance. In two Prussian provinces the authorities have gone so far as to forbid the usual publication in the daily papers of the names of the recently married and of those about to marry, in order to prevent the contracting parties being flooded with prospectuses and price-lists of anti-conceptional appliances. Already the fall in the birth-rate is beginning to be noticeable in the decreasing number of children entering the German elementary schools this year. The limitation of families, according to recent observations, is by no means confined to the so-called better classes; it is also being practised more and more by the skilled workmen. The total statistics for the whole of the German Empire for 1912 are not yet available, but from the figures already published for 42 of the large towns it is abundantly evident that in spite of the improvement in the death-rate the birth-rate continues to decline steadily. Compared with 1911, the decrease in the number of births during 1912 was particularly marked in Frankfort o/M., Neukölln, Schöneberg, and Wiesbaden. These are all prosperous towns; indeed, they are termed the "towns of the people with independent means," owing to the large number of well-to-do persons retired from business or duty who select these for a residence. Two are suburbs of Berlin, and one, Schöneberg, holds the records as regards decrease in the birth-rate. This decline is even more striking when the figures of ten years ago are compared with those for the past year. An illustration may be given for a few of the larger cities:—

1902

297

1912

		-	302	•	202					
	To	tal births.	\sim P	er 1000.	To	tal births.	Pe	r 1000.		
Munich	•••	17,861	• • • •	$35 \cdot 1$		13,458		21.9		
Leipzig	• • •	14,922		31.5		13,40 0	•••	$22 \cdot 1$		
Dresden	•••	12,712		31.5		11,301	•••	20.3		
Cologne	•••	14,621		37 ·8		14,232	•••	26.7		
Breslau		14,424	•••	33.4	•••	13,961		26.4		
Nuremberg		10,373	•••	38.7		9,025	•••	25.5		
Handver	• • •	6,574		27.0 '	'	6,371	•••	20.3		
Mannheim	•••	6,211		42.6		5,823		28·7		
Strassburg	•••	4,685	•••	3 0· 0		3,983		$24 \cdot 4$		
Schöneberg		2,825	• • •	26.5	•••	2,430	•••	13.7		

In the last named, the birth-rate in ten years has thus dropped by very nearly one-half. The above figures refer only to the number of infants born alive, leaving the number of stillborn entirely out of consideration. On the other hand, the decrease in the birth-rate is really greater than apparent from the above figures when it is borne in mind that all these towns have had within the same period to record a vary great increase in population, due to the ever-increasing influx from the country. The natural increase in population in Germany—i.e., the surplus of births over deaths—at present amounts to about half a million annually.—The Lancet, May 3, 1913.

A Recent Analysis of Asparagus.

The popularity of asparagus makes a fresh analysis of it interesting. When we remember that asparagus belongs to the same family of plants—the lilaceæ—as do the garlic, leek, and onion, we may expect to find some constituents in common. Sulphur combined in the form of an oil is, perhaps, the most prominent of these, but in asparagus it is not so obvious to the taste and smell as it is in the raw onion. Curiously enough, however, when the tender shoots of asparagus are left in water for a few days we find that the smell of onions quickly develops and after a time becomes very marked.

Again, if asparagus is extracted with ether, an oil is obtained which has a faint smell of the raw shoot. This oil, on analysis, proves to contain sulphur. It is probably this sulphur constituent which gives the well-known peculiar odour to the kidney excretion after a diet of asparagus, and not the other principle peculiar to asparagus, There is reason for believing, however, that asparagin has decidedly diuretic properties. According to our analysis it occurs in the tender shoots to the extent of about 0.5 per cent. As to the actual nutritive value of asparagus, this must be placed low, especially in view of the fact that what nutritives exist in the plant are rapidly extracted by boiling and even by cold water. Approximately only a tenth part of the raw asparagus shoot is solid matter, and as much as 70 per cent. of this is soluble in cold water, while quite 80 per cent. is soluble in boiling water. It follows that in the process of cooking a very considerable quantity of the raw material is left behind in the water in which it has been boiled. Since the constituents so taken out consist of sugars, gums, proteins, and practically all the phosphatic salts, there is much to be said in favour of the nutritive quality of asparagus soup if in its preparation the boiled liquor is utilised. The sugar in asparagus amounts to an average of 3.6 per cent., the proteins (calculated on total nitrogen) to 3.8 per cent., the fibre to 1 per cent., and the mineral matter to 0.80 per cent. The green variety contains much less fibre than the white, and the green also yields more soluble matter to boiling, and still more to cold, water than the fat white stick. An important constituent, again, of the tender shoot of asparagus is the basic body vitamine. This occurs in the growing tips of all vegetables, but particularly so To sum up, the nutritive value of asparagus in in that of asparagus. the form in which it is invariably consumed—viz., after boiling for 20 minutes—is too small to be of any importance, and its use to the exclusion of other elements would mean a starvation diet. All that can be claimed for it is that it is a particularly pleasing adjunct to the meal, and palatability, we know, is an undoubted assistance to the processes of nutrition.—The Lancet, May 3, 1913.

Gleanings from Contemporary Literature.

THE PREVENTION AND CURE OF CANCER.

A PUBLIC ADDRESS.

By PARKER SYMS, M.D., NEW YORK CITY.

By cancer is meant a tumor or new growth which is made up of epithelial cells and which is malignant in its character. By malignant we mean that it has a tendency to grow continuously until it has destroyed life; also that it has a tendency to recur or redevelop when operated upon. and also that it has a tendency to become disseminated and thus to develop in other parts of the body. There are several forms of malignant tumors. In this address I shall confine myself entirely to a consideration of cancer in its various types and shall not speak of sarcoma, of which there are several varieties.

Cancer is such a terrible enemy to mankind that it is very fitting that we should devote our energies and thoughts to it as a problem, striving in every way to lessen its ravages. It is high time that the medical profession should have an awakening. This awakening should be very wide, for it behoves us to be very wide awake. And it is high time that the public should be aroused by the spreading of as much knowledge as can be helpful and not harmful. The only way in which we can combat cancer with our present limited knowledge is by an intelligent co-operation between the patient and the doctor, between the public and the medical profession. To this end it is of equal importance there should be a further dissemination of knowledge, not only among the lay public but also throughout the medical profession at large.

The fact that the treatment of cancer has largely resulted in failure is often spoken of as a reproach to the medical profession. This is not the thing with which we should reproach ourselves if we are doing our best, But we have not been doing our best and certainly that is a great cause for reproach.

There has been a tremendous amount of research work by certain members of the medical profession. Most elaborate investigation, both in the form of study and in the form of experimentation has been carried on. One could hardly conceive of the vast amount of untiring work that has been done in this field. It is not with lack of such work and effort that the medical profession is to be charged. What we must remedy is a lack of standardization among ourselves, a lack in the average. There has been a lack of appreciation and comprehension of facts that have been fully demonstrated. The medical profession as a whole has not been employing in the practice of medicine important facts which have been demonstrated by the science of medicine. It does not do for a few doctors to know these open secrets. They must be the common property of all the members of the medical profession, for they must be used in every day practice, and many of them must be known to the public as well.

In this way only can we improve the results in our combat with this deadly enemy cancer. It is necessary that we should use all of our knowledge all of the time. It does not do to use part of it part of the time, and that is what we have been doing in the past.

The title of this address, "The Prevention and Cure of Cancer," is certainly an ambitious one for we cannot prevent, nor can we cure all cancer. But it is not a presumptious title, nor a preposterous theme, for we can prevent and we can cure a great deal of cancer. And by properly applying certain facts which we have at our command we can improve our results so that those obtained at present may be looked back upon as a sad instance of shortcoming and lack of common sense.

You are all familiar with the fight which has been made against tuberculosis. To my mind the real value of the modern attack on that deadly foe dates from the time when laymen entered the field. tremendous impetus was imparted and a tremendous amount of good resulted from a brochure written, not by a doctor but by a layman. I refer to the article entitled, "Consumption: The Great White Plague." written by Mr. Eugene Wood. At the time of its publication this article was widely disseminated and created a great deal of interest not only among the laity but also among medical men, and I believe that it and similar efforts have done much to arouse the medical profession and the public to the fight which has been so nobly carried on. By such writings we were taught to set aside many of our faulty methods of approaching the subject of tuberculosis. We were taught from the standpoint of the patient. We were taught for the first time that frankness and truthfulness could be employed in dealing with these unfortunate sufferers. truthfulness became possible and proper because we could look upon tuberculosis with hopefulness and not with despair. When you can give a man a word of hope there is no reason why you should not tell him the truth.

Among the important facts which were brought out and dwelt upon with emphasis were: 1. Tuberculosis is communicable, 2. Tuberculosis is preventable, 3. Tuberculosis is curable. By neglect of these three facts and by ignoring these three facts how impossible would be the fight against tuberculosis. Think what has been accomplished since we have had the hardihood to tell a patient that he has tuberculosis; to tell him that by lack of proper care he may transmit the disease to those around him; and to tell him that by careful application of the laws of health he may recover.

There is another phase of the tuberculous campaign which must be taken advantage of in our fight against cancer; this is the fact that when we give certain knowledge to the public, the public gives it back to the medical profession, in those parts of our ranks where it is most needed. I have seen a physician treating his wife who had pneumonia in a room with the window shut. He would not dare treat a woman in a tenement house that way. The tenement house population has been

very thoroughly instructed as to the necessity of fresh air. The doctor's wife will learn this when she takes up settlement work and the doctor may learn it from his wife.

The medical profession has learned more about the treatment of tuberculosis since Mr. Wood and other laymen took up the subject than it learned in all the ages prior to that time. I do not mean that these gentlemen have discovered any facts that were not known to the science of medicine, but they have discovered—in the sense of uncovered—some most important facts which were not being employed generally in the practice of medicine.

The scientific investigation of cancer has been going on for many, many years, but so far this disease has withheld many secrets from us. In a scientific way we do not know much more about cancer to-day than we knew fifty years ago. We do not even know its real nature, we do not know its actual cause, we do not know whether it is produced by a bacterium or not. Most of the things which the scientific study of cancer has taught us have been of a negative nature. We have come to the conclusion:

That there is little, if any, reason to consider cancer as being hereditary.

That there is no evidence that cancer as occurring in man is a communicable disease.

That cancer does not produce an immunity as do some diseases.

Scientists have been able to transplant cancers from one animal to another, notably among mice, but these transplantations are not inoculations (as in the case of tuberculosis, for instance). By transplanting these cancers in successive generation of mice, we do not produce a family of mice immune to such transplantations; nor do we produce mice immune to spontaneous development of cancer; also we cannot transplant cancers from one animal to another of a distinctly different species, e. g., we cannot transplant cancer from mice to guinea pigs, etc., but there have been successful transplantations among species which are nearly akin, as from dog to fox, from rabbit to hare.

The scientific study of cancer has shown us no new cure. Most of the knowledge we have concerning cancer has been gained by clinical observation.

It would not be profitable to expend too much time nor to dwell too long in contemplating or enumerating things we do not know: let us turn our thoughts to things we do know about cancer.

Cancer is not a growth of any extraneous substance or tissue within the body. It consists in a growth of cells which are perfectly natural to the body. These cells are either displaced or misplaced as to their situation and they are abnormal in their arrangement and relationship, one to the other, but there is nothing abnormal that we can identify as a cancer cell.

We, believe that cancer is very much on the increase for some reason or other and we do not know what this reason is.

We know that cancer is at first a purely localized disease. We know that cancer has a tendency to spread by a natural growth and to develop in and through the lymphatic channels in its neighborhood, and through them to become disseminated throughout the body.

We know that complete removal of a cancer at the time when it is strictly localized and not disseminated will result in cure of that cancer.

We know that incomplete removal of a cancer with its outlying roots will not result in cure, but will result in continuance, either at the original site or in some more or less remote part of the body.

We know that in its early stages cancer is localized, in its later stages it is more or less widespread. We know that with complete removal during the early stages, or during its localized condition, cancer is curable.

While we do not know the actual cause of cancer, we do know something of the causation of cancer, for we know that cancer often does result from prolonged irritation, and we know that there are certain conditions which precede or which predispose to the development of cancer. These are known as the precancerous states, or precangerous stages. This is the most important knowledge we have concerning cancer, for by carefully acting upon such knowledge we can prevent, not cure but prevent, a very large proportion of cancer.

We know that there is no specific cure for cancer, there is no serum and there is no vaccine, and there is no chemical which will act as such.

But we know that a properly executed surgical operation performed at the time when the cancer is still localized will result in cure in a large proportion of cases. And we know that today this is the only reliable method of cure at our command. And we know that by remedying or removing abnormal conditions we can prevent a large amount of cancer. In the recognition and in the employment of these two established facts lie our hope.

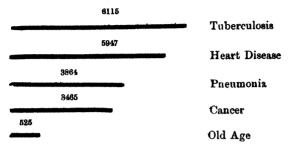
There is a chance for early cure; there is a chance for prevention of this dreadful disease.

Let us pursue our consideration of this subject under several heads.

Let us first consider the prevalence of cancer as compared with several other diseases. Then let us touch upon the diagnosis of cancer in certain situations of the body. Then let us consider briefly the relative curability of cancer of certain organs. Let us give most of our thoughts, however to the reconguition and to the cure of the predisposing causes of cancer, namely, to the precancerous states, and then let us touch briefly upon what has been done for the practical solving of the cancer problem and what further may be done in the way of a successful anticancer campaign.

DIAGRAM SHOWING RELATIVE IMPORTANCE OF CANCER AS A CAUSE OF DEATHS IN NEW YORK CITY DURING 1911.

(Between the ages of 30 to 75 years.)



I shall not enter into an elaborate discussion of statistics concerning the prevalence of cancer, but I wish to strongly emphasize the fact that cancer is a very prevalent disease, and that it reaps an enormous harvest of victims every year. Nearly every one who writes upon this subject is agreed that cancer is greatly on the increase. Some claim that cancer is not on the increase, but that it appears to be so because our more recent statistics are based upon a more accurate knowledge and upon a more accurate means of making diagnosis and that therefore we are charging to cancer today numbers of deaths which would have been charged to some other cause during the years when less accuracy was employed. I have made a careful study of many statistical tables and I must say that my mind is in doubt as to whether cancer is really on the increase or not. There is one thing certain, it is not on the decrease, and we have enough of it to make us recognize it as one of the most terrible of scourges. Unfortunately our national and state statistics are of very little value today; we need a national department of health. And we must welcome the time when we have such a department and when we can have thoroughly reliable and intelligent statistics. The analytical study of such statistics is of great value and forms a very important basis for an intelligent comprehension for such a question as to the cancer problem.

I shall set forth simply a few facts which may be gathered from such statistics which we have at hand. Cancer is not a disease of youth; it is exceptional before the twentieth year; it is rare between the twentieth and the thirtieth year. There is a definitely recognized cancerous period of life, namely from the thirtieth to the seventy-fifth year, the largest number of cases occurring between the forty-fifth and the sixty-tifth years.

TABLE OF DEATHS TAKEN FROM THE VITAL STATISTICS OF THE DEPARTMENT OF HEALTH, NEW YORK CITY.

Deaths between Total number of Deaths from ca	f death	es of	30 to 7. en and	5 years— women,		•••	•••	37,018
Women	•••		•••	•••	1,940	5% }	9%	3,266
Men Deaths from tu	berculo	\ 18 dis	eases	•••	1,326	4%)	16%	5,980

Deaths between t	~		•	1911 :			
Total number of	deaths, men	and	women,			•••	37,925
Deaths from canc	er:					٠,	
Women Men	•••	•••	•••	2,034 4,431	5% } 4% }	5%	3,465
Deaths from :	***		•••	-,	-70 /		
Tuberculosis di	iseases	•••			•••	17%	6,115
Pneumonia	•••	•••	••		•••	10%	3,864
Heart diseases	•••	•••			•••	16%	5,947
Old age	•••	•••	•••		•••	1%	525
Deaths from ca		ing to	location,	betwe	en the	ages of	30 to 75
Cancer of:						1910	1911
Mouth	•••	•••	•••		•••	123	114
Stomach, liver	•••	•••	•••		•••	1,314	1,419
Intestines, rect	um				•••	529	479
Female genital	organs	•••			•••	509	523
Breast	***	•••	•••		•••	324	339
Skin		•••			•••	46	38
Other organs,	and unspēci	fied			•••	448	553

37,018 37,925

Cancer is more common among women than among men, because the larger proportion of cancer in women are found in the female organs, that is to say the female genital organs, including the breast. Excluding these (cancers of the genital organs and breast), cancer is more common among men than among women. Cancers of the mouth and of the stomach are more common among men than among women. This is thought to be because men are more addicted to the use of strong drink than are women, and the idea is also based on the assumption that men are more addicted to the habit of smoking than are women—as yet.

Cancers of the bile ducts are more common among women than among men, just as gallstones are more common among women than among men. The relative proportion of the two conditions is very suggestive and instructive, and will be dwelt upon when we come to consider the prevention of cancer. There are remarkably few instances of cancer as an occupational disease, and yet chronic irritation is recognized as a very potent factor in the production of cancer. However, there is the well-known chimney sweeps' cancer, the cancer caused by X-rays, the cancer caused by prolonged exposure to the sun, and in this connection we might include the kankri cancer of Thibet.

If chewing betel-uuts could be considered as one of the industries of India, we might cite cancer produced by that habit as an occupational disorder.

Unfortunately the use of chewing-gum does not produce a rapidly fatal form of malignant disease.

During the cancer period it has been estimated that in England cancer causes the death of one woman in eight and of one man in eleven. In this country cancer ranks next to pueumonia and tuberculosis as a cause among the total number of deaths. The statistics of the Department of New York City for 1911 show the following facts:

After the thirtieth year:
Cancer causes 9% of deaths.
Tuberculosis causes 17% of deaths.
Pneumonia causes 10% of deaths.
Heart disease causes 16% of deaths.
Old age causes 1% of deaths.

It has been estimated that there are between seventy-five and eighty thousand deaths from caucer recorded every year in the United States.

There are many more deaths from cancer than are recorded. This is due to faulty diagnosis or inaccurate diagnosis, to neglect to include cancer when some other disease is also present, and to many other reasons unnecessary to dwell upon.

Now we come to the question of diagnosis of cancer. To make a late diagnosis of cancer is of no value whatever, except for the purpose of filling and of making up death lists. What we shall consider and what we should concern ourselves with is the question of early diagnosis. In this connection cancers are to be divided into two groups, namely the superficial, external or visible, and the deep-seated, or internal cancers.

Cancer always presents itself as a tumor or swelling, and when superficially situated it can, of course, be recognized by the two senses, sight and touch. There are some cancers of the skin, notably those of the face and lip, which are very slow in their growth and which consequently do not change rapidly, though they may reach a period late in their history when a rapid growth takes place. Superficial cancers are to be differentiated from inflammatory swellings, from deformities presenting the appearance of swellings, and from benign tumors. In an address of this character it would not be well nor profitable to attempt to give rules for diagnosis or differentiation. It is enough that we should call attention to the fact that any swelling may not be a cancer, and that it is of the utmost importance that a proper diagnosis be made at the earliest possible moment, for our only hope of curing cancer lies in an early, radical operation. In this connection the public should have definite but limited knowledge. Laymen and lay women should not diagnosticate their own cases any more than they should know enough about this subject to insist upon having a thoroughly satisfactory diagnosis from their doctors. As far as superficial cancer is concerned there is no excuse for doubt or error. If the doctor is not satisfied to take the responsibility of his diagnosis he should submit a section of the tumor to a competent pathologist for examination under the microscope.

Now as to the diagnosis of the deep seated or internal cancers: In this class of cases we have a very different problem to deal with.

During the early stages when diagnosis would be of importance and of use in bringing about a cure, a tumor can seldom be detected. The only indication that we may have of an internal or deep seated cancer may be some disturbance of the function of the organ involved or of some associated organ. Thus any kind of a disturbance of function should lead us to think of the possibility of a new growth, and should lead us to make a most thorough investigation, otherwise, we shall never suspect nor detect internal cancers during the stage when our treatment can be of any avail. Loss of appetite may be the only sign present to indicate an incipient cancer of the stomach. A newly acquired tendency to constipation may be the only symptom of a cancer beginning in the large intestine. Chronic jaundice should always make us suspicious. Loss of weight and loss of vigor not to be accounted by fever or other apparent cause, should always make us apprehensive. Of course, cachexia and great emaciation are late signs and do not concern us unless we are so constituted as to take a lively interest in terminal stages, and unless we are willing to limit our efforts in our patient's behalf to the furnishing of some such terminal facilities as the administration of opium.

Pain. - Much valuable time has been lost because of the stress physicians and patients have placed upon the value of pain as a diagnostic sign of cancer. Pain is usually present late. It is present as a rule during the late development of cancerous growths. Pain is not a characteristic sign of the early stage of cancer. It occurs early as an exception, not as a rule. It is most important that this fallacy should be dispelled.

This is all that is necessary to be said on the subject of diagnosis untilwe come to the consideration of special conditions.

There is one thing that cannot be impressed too emphatically, and that is the necessity of early diagnosis. If there is any doubt as to whether a patient is or is not developing a cancer in its early stages, the patient should be given the benefit of that doubt. All suspicious tumors, no matter where situated, should be regarded as malignant until they have been proven to be innocent or non-malignant.

Take, for instance, a lump or tumor of the breast. Nine-tenths of tumors of the breast are malignant, or become so. An unknown proportion of cases of chronic inflammation of the breast become cancers and any simple or benign tumor of the breast may become cancerous. Unless it be an acute abscess of the breast, every swelling or irregularity of that organ should be regarded with suspicion and should be treated as suspicious.

Now we come to the important question, the curability of cancer. While we do know that cancer is a wery fatal disease, we also know that by proper means caucer is curable in a proportion of cases. We alsoknow that certain forms or varieties of cancer are much more easily cured than are others, that is to say that the same means being employed. there will be a much larger percentage of cures among one variety of cancer cases than among another variety. This is notably true of such

superficial cancers as epitheliomata of the skin, particularly of the face. It is also true that cancer in certain situations of the body varies in this particular. Thus operation of cancer of the colon and of the small intestine yields very good results, while cancer of the lower rectum cannot be so successfully treated. Of course, this is very largely determined by the possibilities of early diagnosis, early diagnosis of cancer being much more easy in one situation than in another. And again this is owing to the fact that a cancer in one situation will produce symptoms much earlier than would the same kind of growth in another region. Wherever the situation and whatever the character of the cancer may be, the proportion to cures will be in direct relation to the period at which diagnosis and treatment have been applied.

Cancer is always a localized disease at first. Operation during the stage of localized growth would mean complete removal of the entire growth and would mean cure in a very large percentage of cases. For instance, in breast cases early operation while the growth is strictly localized will result in 80 per cent. of cures. Later operation with extension but with no axilary involvement may result in 50 per cent. of cures. Still later operation with limited axilary involvement may result in 25 per cent. of cures. Late operation with marked axilary involvement will result in no per cent. of cures.

Progression and dissemination are bound to occur, in fact a cancer growth is progressive from the beginning. After a cancer has made much progress in its growth or has become disseminated from the original focus, complete removal may not be possible; if not, cure will not result.

We now come to the most important part of this address, in fact it is the most important part of all the knowledge we have on the subject of cancer, and that is our recognition of the fact that there are certain conditions and certain diseases which predispose to the formation of cancer. Some of these are so definitely connected with the development of cancer that they are today recognized as and are designated precancerous conditions, or precancerous states.

In 1911, before this Society, I had the honor of reading a paper entitled "The Precancerous Stage," in which was set forth the proposition that by studying our cases carefully and by recognizing the fact that certain conditions predispose to cancer, we would be making a great advance in our fight against this deadly foe, for by curing, or removing, these precancerous stages we would be preventing a large proportion of cancer. As far as this is true we see that cancer is a preventable disease.

This is an age of progress, and there should be added to the medical professions a new adage in place of an old one. The old one was "what can't be cured must be endured." The new one is "What can't be cured must be prevented." Let us now turn our thoughts towards the prevention of cancer.

If cancer is preventable, how can we prevent it? Certainly this can be accomplished only by recognizing the cause of cancer and by doing:

sway with this cause, whatever it may be. Now as already has been stated, we do not know the real nature of caucer, nor do we know that there are certain conditions which predispose to or determine the development of cancer in a large proportion of cases. Prominent among these conditions are benign tumors, chronic ulceration, chronic inflammation, abnormal tissue such as scars, and prolonged irritation.

BENIGN TUMORS AS A CAUSE OF CANCER.

It has long been a recognized fact that the majority of benign tumors may sooner or later be invaded by cancer or may undergo cancerous degeneration. This is notably true of most of the various forms of tumors of the breast.

Nearly every variety of benign tumor may be found in the female breast. The fibro-adenomata are by far the more frequent and therefore the most important in this connection. These benign tumors may exist as innocent growths for years, and certain of them may continue indefinitely as such, but in the life history of any one of these, carcinomatous infiltration may take place, and then we shall be dealing with a cancer pure and simple.

The lesson to be learned from this is, that every benign tumor of the breast should be removed before it has an opportunity to become carcinomatous. In other words, it should be removed as soon as it is recognized. The time has passed when a doctor, in ignorance, may advise his patient that a tumor of the breast is of no significance unless it shows active signs of malignancy. If we recognize the benign growth as a potential cancer we know at once how to deal with it, and that is, to deal with it at once. In this way we are not only able to insure a patient of definite and permanent cure, but also we may bring this about by means of a small operation involving little shock and the least possible mutilation.

What is true of benign tumors of the breast is true of such tumors in other parts of the body.

Pigmented Moles.-Keen, Bloodgood, and, of course, many others have shown how more than prone these growths are to become cancerous. One of the most instructive lessons can be learned by a careful review of Bloodgood's work in this connection. He made an elaborate study of 65 cases of malignant pigmented moles operated upon. In every case the diagnosis was confirmed by microscopic examination. Up to the time of his report there was not a definitely cured case among them. He calls attention to the fact that in every one of his cases the tumor had existed as a benign growth for many years before it became cancerous. Think what this means! It means that 65 cases (the total of a series) became incurable cancers and that each and every one of these sad cases could liave been prevented had operation been performed at the ideal timethat is to say, during the precancerous stage. In the same report he cites 76 cases of benign pigmented moles which were removed in the precaucerous stage, and he states that there have been no local recurrences and co deaths from internal metastases.

There has been extensive investigation of this subject in connection with hypertrophy of the prostate. Of course, senile hypertrophy of the prostate is purely an inflammatory process, or the result of one. Hugh Young demonstrated an immense proportion of carcinoma among his cases of enlarged prostate. And this fact shows how this chronic inflammatory condition may be the precursor or precancerous stage of the cancer. In his address before the Section on Surgery of the American Medical Association in 1910, Charles Mayo called attention to this fact and cited it as one of the reasons for removing an abnormally enlarged prostate gland.

GASTRIC ULCER, GALLSTONES, ETC., AS PRECANCEROUS STATES.

Today we have very accurate knowledge of the lesions of the stomach as compared with what we knew a few years ago. We have the records of vast numbers of cases where the disease has been actually seen and demonstrated by skilled and able path logists. A few years ago we had to depend on theories and surmises, based on imagination, unaided by sight and demonstration.

While it would be impossible to estimate what proportion of cases of ulcer of the stomach result in cancer, it has been possible to estimate what proportion of cases of cancer of the stomach were preceded by gastric ulcers, either healed or unhealed. In the immense clinic of the Mayos it has been shown that between 60 and 70 per cent. of cancers of the stomach have developed in the site of a pre-existing gastric ulcer or in the cicatrix of an ulcer which had been healed. In other words, it is evident that we must consider gastric ulcer as the precancerous stage of more than two-thirds of the gastric cancers.

The lesson that we must learn from this is two-fold-first, that gastric ulcer must be cured; second, that when we operate for gastric ulcer we must remove the ulcer-bearing area. If these statistics and these statements taken from the Mayo records are accepted, certainly gastroenterestomy is not the logical and rational procedure. It may cure the ulcer but it does not remove the cicatrix of the healed ulceration; in other words, it does not remove what has been pointed out as a conspicuous forerunner of cancer.

Now a word as to the importance of curing gastric ulcers. The day has come when we should insist on cure of all curable gastric ulcers and allied diseases. The day has passed when we should consider chronic indigestion as a man's normal estate. And when we consider the fact that chronic gastric ulcer has been the predecessor of two-thirds of the stomach cancers, we undertake a fearful responsibility in these cases unless we insist upon doing the best that can be done-cure the ulcerprevent the cancer.

Gallstones.—Let me cite an illustrative case. Unfortunately it is an example of a very common occurrence. A patient was referred to a surgeon for an operation on account of an obstructive jaundice. It was evident to the surgeon that the patient probably had a carcinoma. And it was with that understanding that he performed an exploratory laparotomy. The reasons for this diagnosis of probable cancer were: continuous jaundice, progressive emaciation and loss of strength and absence of febrile disturbance. There were also present vomiting, and other gastric symptoms which indicated obstruction at the pyloric outlet. On opening the abdomen it was found that the patient had a carcinoma, involving the gall bladder, the greater omentum, the transverse colon, the lower end of the stomach, and in fact all the organs in that region.

The patient gave a clear, distinct and classic history of gallstone disease, lasting over a period of more than eight years. Of course, the carcinoma did not last that long. From her history it was evident that it was of comparatively recent origin.

The above case is only one of innumerable instances which can be cited. It clearly depicts a case of cancer which had a very distinct precancerous stage, and there is little doubt that an operation performed years ago curing this patient of gallstones would have prevented the development of cancer.

That gallstones cause cancer there can be little doubt. In practically 100 per cent. of cases of primary cancer of the gall bladder and bile ducts, gallstones may be found and it may be demonstrated that they have existed for a long period before a cancer developed. It has been asserted that these cancers never develop except when preceded by gallstones.

It may be assumed that no case of gallstone disease recovers spontaneously. Of course, a large proportion of gallstone cases may exist for years without showing violent or active symptoms. The fact that cancer results from long irritation of gallstones should demand an operation in every case, unless the patient's condition is such as to outweigh the reasons for operation. There are many other reasons why gallstones should not be left unoperated upon. Gallstones are never a benefit to the patient, they are always a source of harm. It is not necessary to discuss this point more fully in this connection. For our present purpose this one fact is sufficient—gallstones are invariably precursors or forerunners of biliary cancers and for that reason if for no other we should operate and cure all cases of gallstone.

CHRONIC IRRITATION AS A CAUSE OF CANCER.

In the mountains of Thibet the natives are in the habit of carrying a small stove like a pocket stove, in one part of their tunics. This stove is called the kaukri. The prolonged use of this kankri stove is followed by cancer at the site which is irritated by the heat. A very familiar example of cancer caused by irritation is the so-called clay pipe cancer of the lip, caused by the habitual use of the clay pipe. Another is, or was, rather the chimney sweep cancer, caused by the irritation of soot lodged certain folds of the skin. In late years we have added to our list the concers produced by the too frequent exposure to the X-rays. A sharp tooth, by prolonged irritation, may cause a cancer of the lip or tongue.

In India some of the natives are in the habit of chewing the betel-nut and they even go to sleep with a betel-nut lodged in their mouths. At the place where this betel-nut causes chronic irritation cancers develop. In China the men are in the habit of eating very hot rice. Owing to their inferior social status in that country, Chinese women have to wait and do not get their rice fresh from the fire. Cancer of the stomach is very much more common among the Chinese men than among Chinese women. By some this fact is ascribed to the difference in the temperature of the rice they eat. The social elevation of Chinese women may result in their not only sharing equally with the Chinese man in his vote franchise but also in his gastric cancer. Gallstones causing cancer form an illustration of the effect of chronic irritation. We might multiply these instances indefinitely. I believe the examples just given are sufficient to show that cancer does result from prolonged irritation.

The lesson to be drawn from this is obvious, namely to avoid prolonged irritation. X-ray operators must protect themselves. A proper attention to a sharp tooth may be a means of preventing a cancer of the tongue. In a word, we should learn to avoid all unnecessary prolonged irritation especially those forms of it which are known to result in the production of cancer.

CHRONIC INFLAMMATION AS A CAUSE OF CANCER.

We frequently see examples of this condition. There is one form of chronic inflammation which might not be recognized as such, certainly by the laity. The best example of this form of inflammation of which I speak is found in the female breast. It is some times spoken of as abnormal involution of the breast. It is characterized by irregular hard masses within the breast which are not distinct tumors. This particular form of chronic inflammation of the breast is very liable to become invaded by cancer, so much so that it may be considered a precancerous stage, and it should be treated as such. If left to take its course many a cancer will ensue; if properly removed by an early surgical operation many a cancer will be prevented. This condition bears a strong analogy, both in its history and in its microscopic findings, to the change which takes place in the prostate gland, resulting in prostatic hypertrophy and which in the prostate results in carcinoma in a very large percentage of cases.

I have not spoken of cancer of the uterus, nor do I believe it is necessary to dwell long upon that subject in this address. Uterine cancer is among the most frequent of all forms and unfortunately it is among the most fatal. Cure of uterine cancer is very difficult. Our greatest hope lies in prevention. There are many conditions which predispose to these cancers, such as simple tumors of the uterus, chronic inflammation of the organ, and chronic ulceration, or so-called erosion, usually the result of neglected laceration and tears. All these abnormalities should be remedied because they are precursors of cancer. They are precancerous conditions. Of the symptoms I shall not speak at this time.

Now let us take unto ourselves such lessons as can be taught from the foregoing statement. Let us see whether we have been doing our duty in the past and let us see what we can do in making a fight against this dread, disease in the future.

We may sum up our facts very briefly. Cancer is a purely localized condition at first. It tends to spread and to disseminate so that it soon ceases to be localized. Cancer can be cured only by complete removal of the entire growth. The entire growth can be removed only before dissemination has taken place, namely, in the early stages. Therefore in early operation lies our only hope of curing cancer.

Have we been operating on our cancers in the early stages? We have not. A careful study of a large series of cases by the Pennsylvania Cancer Commission brought out the fact that on an average one year and two months elapsed between the time when cancer was first detected and when it was operated upon. It brought out the further fact that one year elapsed on an average between the time when a physician first examined the case and when operation was performed. Less than 68 per cent. of superficial cancers and less than 48 per cent. of deep-seated caucers are operable when the patients come to the surgeons. Think of this delay! When we realize the fact delay amounts to death, it certainly behoves us to see if we cannot do better in the future.

I must mention some other facts which were brought out by this investigation namely, that in about 10 per cent. of cases the physician first appealed to make no examination, and that in between 10 and 20 per cent of cases which were examined the physicians gave maladvice, such as, "Let us wait and see what happens," "Do not bother about it unless it becomes painful," etc.

Of course we cannot attain the ideal, but we should certainly strive to come as near it as possible, and if we do not examine our patients when they come to us, and if we do not advise them along the lines of well established fact, we certainly are not striving after the ideal, we certainly are not doing our best.

Undoubtedly the patient is more often at fault than the doctor, but that does not excuse the doctor for his errors, and it certainly behooves every one of us to do all we can to educate the public in these important questions and to stimulate them and to encourage them to co-operate with us.

There is one important thing which must not be forgotten and which must be impressed upon the public, and that is the fact surgical operations, performed by skilled surgeons, entail very little risk of life. Such operations as are performed for the early cure of cancer certainly do not result in the death of one per cent. of patients. Late operations must necessarily be more extensive, more severe, and more dangerous.

Now let us see what may be said as to the cure of those conditions which may be considered precancerous stages.

This takes us into a very wide field. It is almost a plea for good health. Here the physician and the patient must co-operate; neither must be satisfied with anything short of perfection as far as perfection can be brought about. Just consider for a few moments the question of digestion and indigestion. Digestion is a normal function which should be carried on without symptoms, without discomfort. Indigestion is a symptom: it means a disturbed function. Of course, it may be indicative of a purely functional disorder, but structure and function are so closely associated that an abnormal function should prompt us to suspect and to look for a structurally diseased organ. Now wherein may indigestion be a warning of a cancer yet unformed? Indigestion and dyspepsia may be the manifestation of gallstones, or of a gastric ulcer. Gallstones cause 100 per cent. of capcers of the gall bladder. If we could cure all cases of gallstones and if we could cure and remove all gastric ulcers before cancers have resulted therefrom, we would have no case of primary cancer of the gall bladder, or of the bile ducts, and we would have but one-third of many cancers of the stomach we have now. It has been roughly estimated. that nearly one-half of cancers have a very easily recognized precancerous stage. If these precancerous stages bear the relationship which we think that do to cancer, their cure or removal would mean the doing away with practically one-half of the cancer.

I feel that this topic on which I have addressed you is a very timely one. It is belated, rather than timely, as far as its importance is concerned for we should have given it more attention long ago. It is timely, because we are beginning to make an organized fight upon cancer, very much as we are making an organized fight against tuberculosis. accomplish this we must make every endeavour to raise the standard of work among the physicians. As I said in the beginning, the greatest necessity lies in raising the average, our average is too low. We should give every possible encouragement to the scientific study and investigation of cancer. By that means, the solution of the problem may be found some day, but at present it behooves us to better our work in everyday practice, to see that we disseminate among our entire profession all the practical knowledge we have, and to endeavor to bring it about that all our knowledge shall be employed all the time, by all of our profession.

Now as to the enlightenment of the public in these matters. I hold with the majority of our profession, that it is very important that the public should have increased knowledge of this subject, but I do believe that we should be very guarded in the kind of knowledge we teach. cannot and we should not teach the public the symptoms of cancer. must be careful not to fill the public with unwarranted apprehension of cancer. Most of our teaching must come through the physician in his practice. If that were well done it would be far better than anything we could do in the way of spreading knowledge by literature. But there are some things which it is well for the public to know. It is well for them to know that every lump and every swelling is more or less suspicious. They should know that cancer has no definite characteristic symptom which distinguishes it from other conditions; they should know that a physician can give intelligent advice only after he has made a most careful examination in any case. They should not receive nor act upon any advice that is carelessly given. They should know the significance of indigestion, they should know the importance of good health, and they should know that cancer is in a sense preventable, and that it is in a degree curable, the degree in which it is curable depending entirely upon the time in which it is removed. They must know that operation in skilled hands is almost free from danger, that operations are safe, that delay is the chief danger in cancer.

The campaign against cancer has fairly begun. It has already been taken up actively in several states; in some of the health departments. and in others by commissions appointed by state medical societies. Such a commission was recently appointed by the Clinical Congress of Surgeons of North America. The American Medical Association and several of its affiliated state medical societies have started on active work.

In this connection I am not speaking of the tremendous work which is being done by various institutions and foundations along the line of the study and investigation of cancer as a problem; I am speaking of the campaign of enlightenment and of publicity which has been started along the more practical lines.

Of course this is not only a humane problem. It is a most important social and economic problem. If a well organized campaign can result in reducing the morbidity as well as the mortality resulting from cancer, think what a saving it will be to the state.

How directly this thought can be applied to life insurance companies. If life insurance companies can do anything that shall lessen the number of cancer cases developing among their policy-holders, how much money may be saved to them. Some insurance companies are showing a recognition of this fact and are doing much in the way of disseminating knowledge among their policy-hoiders not only concerning general hygiene and preventive medicine but some of them are trying to impart just such knowledge as I have spoken of, namely knowledge as to how to prevent cancer.

This campaign should not only be nation wide but world wide, and the more quickly it is started on a uniform basis with good organization, the more quickly will it become effective. If we can have this matter taken up as a national affair with systematic work done throughout the United States, with every state and every county working under a uniform plan, how much may be accomplished. One of the first necessities is the establishment of a national department of health whereby we can unify our proceedings and whereby there can be issued national statistics which will be complete and accurate.

Think how much we may accomplish by a successful campaign of uniform and unified effort. When no longer fourteen months ensue between the first discovery of a cancer and its final surgical treatment, and when no longer a year is to be lost between the time the physician first meets a cancer and the time when that cancer is brought to operation and when no longer the physician who is first consulted in a case of cancer gives maladvice, and when physicians and patients recognize the fact that in early operation lies our chance of cure, think how many less deaths there will be from cancer.

If it is true that 50 per cent. of cancers show a definite and easily recognized precancerous stage, and if it is true that there are 80,000 deaths from cancer in the United States annually, then the remedy of the precancerous state and the prevention of cancer will save 40,000 of our citizens annually from this terrible scourge. We may not attain our ideal but let us unite our efforts to do the best that can be done.—New York State Journal of Medicine, May, 1913.

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THE CLINICAL VALUE OF DELUSIONS.

BY ELBERT M. SOMERS, M.D.,

It probably would be better to approach the subject of this paper by considering for a few moments the mechanisms of the normal mind, since the vagaries of the healthy mind help us to best understand departures from certain rather wide and permissible methods of reasoning which we finally recognize as absurd or abnormal.

All of our perceptions are the result of the proper elaboration by the central nervous system of one or more of our senses which have been stimulated. Through no other sources can mental elaboration come about. The sixth sense, a term common enough among the laity, simply means the utilization of the material so gained and pre-eminently belongs to the highest type, —man. Our experiences coming to us through the various senses as the result of apprehension and attention, are clarified and selected, and form a basis for further intellectual processes.

The higher mental activities depend, to a great extent, upon memory. Impressions coming through our consciousness leave some registration, but whether strong enough to be recalled, depend upon the intensity and the interest excited.

Most of our ideas are heterogeneous and only certain experiences impress themselves upon us and stand out clearly, whereas other impressions are soon relegated to the background because they lack permanency due to imperfect assimilation. It is the utilization of oft repeated impressions that results in the formation of concepts and allows reproduction in the form of ideas, which are, of course, copies of impressions, and may or may not be accurate, depending upon the faithfulness of our memories.

This constant training permits us to develop still more complex mental products in the form of judgment and reasoning, since we have the means through perception, memory, formation of concepts and the valuable gift of associating ideas—all of which allow us to draw inferences accurate, inaccurate or incomplete.

Information that we gain comes to us in two ways. One is through experience and the other by the free action of the mind or imagination. Emphical knowledge is experience and is differentiated from pure belief which arises from the recasting and interpretation of experience.

Our wildest thoughts employ material gained from experience, and on the other hand, empirical knowledge is rarely free from more or less preconception. If the experiences we gain are scanty and unreliable, imagination comes in to fill the field with the products arising from the free action of our own minds. In children, invention and experience are hard to differentiate. The older we grow, the more we are able to draw distinctions.

There are many grades of intelligence as there are persons, but given a certain sameness of nature and nurture, a considerable number will appear to be roughly alike as to view points, conclusions, and mental attitude, since they have been cast in the same mould on account of the similarity of the original stock, the environment, education, training, etc. This accounts for the difference in the mental levels which we experience daily in our intercourse with a variety of folks.

Mental differences are accounted for much as those purely physical. In both, hereditary virility and functional education play an important role: We find that if we put certain people to the test of direct' experience, the line between this and invention becomes very clearly defined. Those of the higher intellectual order have naturally more accurate judgment and reasoning because they have permitted experience to supplant purely primitive thought. They do not draw their inferences from insufficient data, and the imagination does not allow ignorance to carry matters too far. Nevertheless, even among the cultured, there are beliefs and traditions which experience or argument cannot shake.

It is a well known fact that untrained people do not draw the distinction between actual knowledge and belief. They credit their mystical ideas to direct experience. Hence, superstition survives among those not cultured. However, it is equally true that dogmatic opinions and fixed ideas occur among us all, even though we are educated and have more accurate habits of thought, and these opinions cannot help but mould our experience along the lines of prejudice. As instances, certain political, religious and social convictions, supposedly dependent on rational elaboration for their content, are well known to be inaccessible to opposition and argument. We may show good jndgment and good reasoning in the ordinary events of life, but in these matters which we vigorously defend, there is an emotional significance which does not permit us to utilize fully the usual avenues of experience in coming to certain sweeping conclusions.

We could use further illustrations by designating at length many of the superstitions which are held by those more limited in thought, and even among our own kind. It is a well known fact that among the Negroes in the South it is the feeling of helplessness and insecurity in the presence of the unknown and mysterious, which supplies the fertile soil for the various unwarrantable deductions which are tenaciously held. Again, the question of spiritualism, mental telepathy, etc., are matters of belief among some, while ridicaled by others. To us, may be, they seem more questions of good judgment than the problem of the revision of the tariff. The one cannot be settled because it is inaccessible to final conclusion by argument, whereas the

other can be, since it arises out of common experience and can, therefore, be settled some day by demonstration.

We permit the widest possible latitude in the matter of beliefs, conclusions and notions before we decide that ideas are unsound or abnormal. Something more is required to characterize a belief as a delusion. A delusion is simply the belief in something which does not exist in experience. A false notion does not arise from experience and deliberation. It arises from the erroneous interpretation of events within the porson's own imagination or ideation. Sweeping conclusions are drawn from insufficient data. We therefore can see that even false beliefs or delusions may not necessarily be insane beliefs. Something more is required than the mere entertainment of an idea which may be in conflict with evidence. These false ideas have to possess individuals in such a way as to result in a morbid change in that person's mentality, after taking into consideration his mental level, training, environment and usual habits of thought.

A person can hold certain strange ideas or beliefs, but they do not take such possession of him that he is not in other respects quite on a par with his usual mode of thought and action, although he may, from an academic standard, be deluded along these lines. He is not, however, a potential lunatic. other words, these ideas may not medically be classified as insane delusions, and very often we find that the legal view of insanity would not consider such ideas as necessarily indicating insanity. It is only where the person cannot perceive the contradictions between his fancies and former experiences, and allows his mental condition to influence his ideas to such an extent that he becomes incapable of using the function of judgment, that we then can consider the person insane. In health we are accustomed to judge all our fancies according to the standard of our own experience, and to regard as invention that which does not conform to knowledge. Clearly, we have not lost the power to oppose, correct and suppress wrong inferences. other words, we reason from sufficient data. Our emotional side does not override our ability to come to a sound conclusion, at

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least for very long. We do not fail to correct the matters ourselves, or to see things in the right light after a certain amount of argument. We dispose of these things in such a way that they do not put us out of joint with our environment, whatever it may be, whether we be of limited mental calibre or otherwise. We do not act upon these ideas to the extent of attracting attention by talk, or bizarre conduct. We do not allow these ideas to morbidly effect our mood.

To be insane, one has to show a radical intellectual departure of thought, feeling and reactions from what was his normal self, of course after taking into consideration his natural make-up and the result of the nurture which has been given him.

It is hardly necessary, in this paper, to go into the general description of the question of what may be insanity, since time will not permit of an explanation as to how a person can be insane without having demonstrable delusions, but it is rather to show the clinical value that delusions may have.

Probably all delusions center in the self or the ego. They are either depressive or expansive in character, but depressive delusions stand the closest to normal life. Many normal people torment themselves with the belief that they are unlucky. It is but a step to earry such beliefs further, to the idea of unworthiness or ruin, and then to borrow further by considering that they have committed crimes, are irredeemable, refuted by God, and the accompanying emotional reactions readily supply further conclusions as to punishment. On this basis, the patient easily develops ideas of suspicion, of nihilism, of fear, or refers to everything as having a meaning. Or, the departure from the normal may be along hypochondriacal lines, with all sorts of somatic ideas regarding one's physical state.

Likewise, expansive delusions can be of all grades, even to the transformation of one's own personality.

When evidences of further mental weakness occur, fantastic and absurd notions of a depressive or exalted nature appear. The varieties are innumerable and may embrace the widest range of morbid reasoning.

Delusional reasoning processes of any type are always in proportion to the intellectual capabilities of the individual. A man of limited calibre will have a relatively simple and rather narrow, circumscribed trend, whether it be of a depressive or of an exalted type. The one with a previously higher developed mentality may or can embellish his reasoning processes to a profound degree, and although reasoning from false premises, will do so logically and clearly. In the latter case the person can draw from a greater fund of memory pictures than the one who has always utilized only a limited amount of mental timber.

Clinically delusions are classified variously. Wernicke classifies concepts as to whether they relate to the outside world, to the individual's or to the individual's body, and speaks of the ideas respectively as allopsychic, autopsychic and somatopsychic. Delusions of persecution are referred to conditions without. The belief that one has committed an unpardonable sin is an autopsychic concept, whereas the belief that no stomach exists is a somatic affect.

Now, delusions can also be fixed, or changeable. That is, systematized or unsystematized. The fixed, or systematized delusions take their origin from actual occurrences and show a deep disturbance of reasoning process, and form a motive power for queer actions, and these actions center, more or less, about the dominant trend of whatever sort it may be. The subject regulates his life accordingly, either to avoid persecutors or to assume the characteristics of a fanciful personage. Should he be suspicious of food, he carefully investigates. He goes to infinite pains to shut out noxious vapors. His explanations are logical and the reasons are interminable.

Unsystematized or changeable delusions are not as fully assimilated. They do not enter into the organic makeup of consciousness to such an extent; and since the beliefs are unstable they do not specially control conduct for long; the subject simply makes the assertion of a belief without cogent argument, and may soon abandon it for a notion quite unrelated.

To barely touch upon paranoia (which in derivation simply

means wrong thinking)—this possibly can be best disposed of by quoting from White's "Outlines of Psychiatry." At first he goes on to say that a psychosis may develop about a centralized event, and that the beliefs may be fairly well circumscribed; "but it is only by taking a view that an idea is a thing apart without organic connection with the personality of the individual that we can conceive of a person with a single wrong, delusional idea, yet perfectly all right every other way. The formation of an idea is dependent upon too many processes and cannot spring into being independently of them, and if it is itself pathological we must look to the mechanism of its growth for its explanation."

To further quote, Mercier says: "The delusion is not an isolated disorder. It is merely the superficial indication of a deep seated disorder. As a small island is but the summit of an immense mountain rising from the floor of the sea, the portion of the mountain in sight bearing but an insignificant ratio to the mass whose summit it is, so a delusion is merely the conspicuous part of a mental disease, extending, it may be, to the very foundations of the mind, but the greater portion of which is not apparent without careful sounding. Precisely how far this disorder extends, beyond the region of mind occupied by the delusion, it is never possible to say; but it is certain that the delusion itself is the least part of the disorder, and for this reason, no deluded person ought ever to be regarded as fully responsible for any act that he may do. The connection between the act and the delusion may be wholly undiscoverable, as the shallow between two neighboring islands may be entirely hidden by the intervening sea, but nevertheless, if the sea stood a hundred fathoms lower, the two islands would be two mountain peaks connected by a stretch of low country; and, if the hidden springs of conduct were laid bare, the delusion and the act might be found to have a common basis."

In the main, we might say that a delusion is, in quite a number of forms of insanity, the unimportant question. It is rather what is the underlying intellectual disorder, as mania,

the reactions, the activities, bizarre conduct, and emotional changes are of far more importance. The delusions are simply the very commonplace evidences of a psychosis. They are fleeting, of practically no importance, and in five minutes or less may disappear. Again, to show that the delusional content is not necessarily a guide to an accurate diagnosis, we find that in cases of general paralysis the delusion is often not grandiose, but depressive in nature. These expressions may be selfaccusatory or somatopsychic, and if we rely upon the delusional expression, and fail to test for memory defects, change of personality and organic physical alterations, we get an erroneous clinical picture and might on this basis just as well classify the case as one of melancholia, hypochondria or manic depressive insanity. It would be of the same value as making an accurate diagnosis of abdominal disease, simply because of the patient's general expression of pain anywhere in his belly.

In taking any classification of mental diseases, one can readily see that the same sort of delusions may occur in a variety of forms of mental diseases. In the deliriums we have delusions, but the confusion, the disorientation, the clouding of consciousness, are the leading features, and the delusional expressions are not alike in any two cases. In dementia præcox the impairment of attention, the evidence of dilapidation and the emotional tone are the guides to prognosis. In melancholia and in the depressive form of maniac depressive insanity, it is rather the disturbance of the trend of thought, the clouding of consciousness and the painful concentration of the mind that permit of giving the diagnostic name. In paranoia it is the marked alteration of the personality, without disturbance of the coherence of thought, the retrospective falsification, and the systematized delusional trend which render these individuals dangerous, since they are chronically in an attitude of self-defence and are looking for evidences to support their beliefs and even force them upon others to their peril. Their beliefs are not like the beliefs of a harmless crank at large, since they dominate the personality and make them unsocial individuals, but just where the dividing line may be is often unfortunately only found out too late, just as in the case of a general paralytic who has squandered a large portion of his money before the relatives, through pride or ignorance, get ready to deprive him of his liberty.

Briefly, we may conclude that a delusion of itself, which is simply a false belief, may have no pathological significance, since a man can believe today is Sunday rather than Monday. This has only the significance of a mistake, and the reasons are hardly worth while following up. We would not dwell in argument with that individual, any more than we would take time today to explain why we differentiate between a lie and an insane delusion. A woman who states that her husband is untrue to her has not expressed anything which, on the face of it, is impossible. It may not be out 'of harmony with her education and environment. If we run down the origin of the belief, find upon what foundation it has been erected and if she gives reasons which are not logical, we will then be able to conclude that she has not only a false belief, but not a sane one. may be safe to leave at home because her notion is a benign one, or the idea may possess her in such a way that she is a potential lunatic, because of collateral expressions, actions and conduct, attitude and manner, which render her unsafe to herself or others, and warrant incarceration. After being in a hospital, she might take up the subject of spiritualism and believe in it. It might be a further evidence of mental weakness, but though still existing, should she right herself as to the other beliefs, she would be discharged recovered.

Clinically expressions which are out of the ordinary, even if they be queer and absurd are of themselves of little value unless they be supported by some additional evidences of insanity.

It is true that some expressions are at once recognized as intrinsically insane in nature, but the point made in this paper still applies, since the more insane the utterances the greater is the insanity.—Long Island Medical Journal, May, 1913.

THE HOMEOPATHY OF TOMORROW.

BY O. S. RUNNELS, A.M., M.D., INDIANAPOLIS, IND.

What the morrow may bring forth is a matter of uncertainty as to incidents and happenings, but not as to trend of events. That the sun will shine is assured regardless of the clouds that may flit across the field. That harvests will follow seed-time and that cosmic laws will continue to operate, none is sceptical enough to deny. The future will be very much like the past. It will have in its granary all the gleanings, all the results of experience, and will have on its program, not only all the uncompleted events left over, but the new work of the day superadded. The day after this will be the inheritor of all that has preceded it; will be a segment of time which, joined to today, will be just a continuous now. "The best prophet of the future is the past."

The Homocopathy of Tomorrow, therefore, will be what it was yesterday and is today, only evolved to a higher state of perfection and a nearer fulfillment of its mission. Having had existence and a purpose in life, it must run its course and complete the work whereunto it was called. What that mission was, why it was called into being, and why the furies have been unable to destroy it, is not necessary to recapitulate in detail. A short resume will serve our purpose.

Homeopathy was born during great world turbulence. The French Revolution was in progress; American Independence had just been won and the time was ripe for the great medical upheaval that Homeopathy was to inaugurate and conduct. It came at a time of utmost stagnation in medical learning when therapeutics was without chart or compass, was groping and haphazard and not much above that administered by the savage. Venesection was the first remedy in every sickness; polypharmacy had reached the limit, each massive dose containing almost everything ever known to be good for anything; mercurial medication was so general and continuous that toothless victims on that account were met at every corner; setons made pus to flow indefinitely, in order to draw out "poisonous humors;" blisterings and the red-hot iron skinned their victims in order to counter-irritate

them; all these and other like measures, I repeat, caused needless purgatorial suffering, that the historian may be able to outline, but never to depict in terms of actual experience.

Hahnemann's message at such a time was indeed a "gospel of good tidings," destined to transform the therapeutic world. was revolutionary and reconstructive and marked the beginning of a new era in medicine. It was the "new birth," since improvement in all things therapeutic began to date from that time. Henceforth "men began to open their eves and see;" the medical mind "seemed to gather new energies at the sight of the vast fields that opened before it" and transformation was progressive. Why Hahnemann's amendment was not immediately adopted. by a rising vote, unanimously; why his innovation was not greeted as the harbinger of the medical millennium and the gentler, more attractive and more efficacious ministrations were not embraced by all, at sight, was matter, indeed, for surprise, but was not exceptional. There have been other instances of great truth held in abeyance, notably Christianity, but there has been no depreciation of it on that account. Reformation moves slowly. All evolution is measured by the micrometer, progress being so little at a time as to be almost inappreciable.

When Hahnemann published his first deductions he had intention of founding a school of medicine. Learned man and true physician that he was, he offered his truth in the spirit of science, unselfishly. He desired only to benefit mankind by the diffusion of knowledge. Had his theses been received in like spirit and his arguments been subjected to trial, either accepted or rejected according to the preponderance of evidence, as he expected would be the case, all would have been well and a century-long war would have been averted. But those pecuniarily interested took alarm, bitter opposition was launched and martyrdom for opinion's sake re-enacted.

It was expecting too much of Hahnemann, or of any man of great ability under such circumstances, that he should tamely surrender and quit the field. With an indwelling sense of a great truth in his keeping he felt bound by duty to preach it and

to defend it. A Teuton by birth he stood by his guns. Converts gathered around him and the drill of the drug-provers began—the first of the kind in history. What power was resident in the drug as shown by its action upon the healthy, that pointed to its use in pathology, had not before been inquired into. This appealed to thinking men from the start. It was the basis for intelligent prescribing. It meant thereafter the single remedy and the minimum dose.

It was found necessary to have a flag around which the disciples could gather and under which they could fight humanity's battle. As they were called Christians first at Antioch, so they were called Homeopathists first at Leipsic. This was the birth of the school, a matter wholly of necessity; there had to be association for defence and development.

This was but yesterday; what resulted? Recruits rallied to the standard in units and platoons till companies and regiments reproduced themselves in every enlightened country. And it was a notable fact that all enlistments for a half century, until the foundation of homeopathic colleges, were seceders from the opposition camp. They were men of attainment, educated in the universities; many of them had held posts of distinction in their profession, but having become dissatisfied with the ancient regime were yearning for something better. With all of them, however, it was only after rigid analysis of the new doctrine that they avowed fealty to it. Frequently their investigations were undertaken with the purpose of exposing the supposed fallacies of Homeopathy, but in their zealous pursuit a light was encountered, akin to that seen on the Damascus road, that completely changed the course of their lives.

But this was not the whole measure of the movement. The yeast that began to ferment in 1790 has ever continued its leavening, until it is not so much a question now as to how many disciples there are making open profession of Homeopathy, but how thoroughly the body medical is saturated with its transforming doctrine. Take note that the lancet used with such murderous effect in the fatal blood-letting of George Washington,

for simple tonsillitis, when the ink was hardly dry on Hahne-man's proclamation, was very soon forced out of use and, together with other orthodox practices then in vogue, existed thenceforth only as a museum relic or a thing to be wondered at; that lucrative polypharmacy dwindled from one hundred and sixty ingredients in a prescription to a baker's dozen or so; and later still to just simple syrup and one, two or three; and that nauseous and repulsive concoctions met their Waterloo; inasmuch as children did not cry for them and adults refused them, they were forced to don saccharine coats and become as much like "sugar pills" as possible.

Hahnemann had "fired the shot heard round the world," had startled sentinels on every picket and aroused to activity sleeping battalions on every field. The change, medically speaking, measurable on every hand today, is the logical consequence thereof. For however bitter, contentious, denuuciatory, malignant, sarcastic, "holier-than-thou" and aloof, were the elder cohorts in their ethics toward their homoeopathic co-workers, the general transformation was being wrought, antediluvian therapeutics was undergoing reformation and more humane and scientific methods were progressively established.

In the same trend were other historic facts. Therapeutic rediscoveries were heralded from time to time, but with no sign of second-hand information attached; implied new uses of remedies were announced, and names had place on the register of fame, that today are not lustrous on that account; Bartholow, Phillips, Ringer, Porter, Wood, Hare and Cushney embodied much of this in their works on Materia Medica and Therapeutics, thus illuminating their pages immensely, and scores of their editions, thus enriched by plagiarisms from homoeopathic sources, were greedily assimilated. All of which, in one respect, was not very creditable, but the world received the usufruct just the same.

What a remarkable state of affairs it was that eventuated after Hahnemann's coming; what a wonderful series of events to occur in quick succession after therapeutic immobility had persisted for thousands of years, and just when active cerebration concerning

Homeopathy was in progress. What a very notable "coincidence" it was indeed!

It was found that after all there was "something in Homœo-pathy," some foundation for its growth and maintenance. After due allowance had been made for the clay in Hahnemann's make-up, for the evidences of human imperfection as expressed in some of his theorizing, it was settled that Similia Similibus Curentur was a law of nature; that the animal body was affected by medicinal substances inconceivably minute and impalpable, and that medical science had made great strides on that account.

It was discovered very early in the history of Homeopathy that certain products, such as the discharges from diseased tissues, the viruses and morbid sera, had medicinal power and acted in harmony with the law, Similia. These "nosodes," as they were called, were used as remedies with remarkable success, but were subjected to more than usual ridicule and depreciation. It is refreshing now to find that this also was an extension of knowledge, as has been shown by twentieth century developments, and was the blazing of the trail along which the therapeutic highway was to be built.

Great ingenuity of explanation has failed to convince the candid mind that this is not Homeopathy, and in spite of all such arguments the homeopathic principle is again triumphant. has been acknowledged by Von Behring, Pasteur, Wright and others, masters of the serum technique, who in the spirit of true science were concerned only for the findings of truth. cines, the antitoxins, serum therapy and the salts of radium, as well as other drugs in general use-all these change the opsonic index, stimulate phagocytosis, generate immunity and prove curatively effective in obedience to the Law of Similars. is distinctively homocopathic has been proven experimentally by Wheeler of London, with phosphorus; Watters of Boston, with the salts of potassium; Frey of Johns Hopkins, with rhus toxi-"codendron: Burrett of Ann Arbor, with echinacea; Dieffenbach of New York, with radium bromide; Bailey of Chicago, with radio-active substances; Runnels (Scott C.) of Indianapolis, with the oral administration of vaccines, as well as by all of our clinicians, unwittingly, for over a century in bedside practice.

The great quest in this world is to find the verities, principles that are unchanging, that have acted and will act through all time. Touching the question in hand, assurance is doubly sure when we know that the symptoms produced by a drug upon a normal person are the same as would have been produced by it on the third day of creation, as recorded in Genesis; and that these powers resident in drug matter were meant by the Creator of the Universe, from the very beginning, to signify their uses in similar conditions engendered by disease.

The Infinitesimal Dose—so long the butt of ridicule—are there any now too mean to do it reverence? Doses in millionths and billionths of a grain are found, by non-homeopathic prescribers, even to produce "aggravations." "After giving the millionth of a milligram of tuberculin," says Trudeau, and this is assented to by Von Pirquet, Wright and others, "let the action of the remedy come to an undisputed conclusion; so long as improvement progressively advances let there be no repetition of the dose." This is very old homeopathic advice, but good as ever nevertheless.

So it is that science brings into camp every day a new fact, or an old one verified, captured by its pickets along the line between the known and the unknown, all of which, so far as drug action is concerned, are confirmatory of the law of Hahnemann.

Men have deprecated the war that was waged on Hahnemann's truth, have regretted the unsheathed swords and the combat, but there can be no birth without travail, no sailing without wind and no refinement without great heat. It is the method of creation, operative from the beginning, and has done Homeopathy no harm. It takes the lightning to clarify the elements. It takes the dark night to bring out the stars. None knows this better than he who has been in the battle for principle, often against great odds, and who has been permitted to take part in the jubilation of victory.

Homoeopathy sees its goal, not in perfection, but in progress, the invitation of tomorrow worth accepting because of the never broken promise of yesterday. Human perfection has never been attained and never will be; it is always becoming, always advancing; it is perfectibility only that is possible. The attainment of the ideal would be the end of progress. The mind of man once it has won its point does not dwell there; the step it is taking is always the next step on the forward road. The law that has been operative in the past will be operative in the future, never fear; and the world will finally not dispute it. When opposition to the Law of similars ceases its further defence will not be necessary. When Homœopathy has completed its evangelical mission and its reforming message has been universally embraced, its distinction as an entity will not be called for.

But that time is not yet; homeopathic truth is still assailed both openly and covertly and ignorance concerning it is widespread. Advocates and teachers are needed. This is no time for repose, for dismemberment of the army or for capitulation. All the faint-hearted, all who have wearied of the strife and the ostracism, should be permitted to retire, inasmuch as luke-warm soldiers are undependable, are apt to weaken and desert at critical moments and are never valiant. The army is stronger without them. Until the principles of Homeopathy have been adopted in good faith universally and all opposition is dispelled, the discipline and march of the homeopathic cohorts must go on. Conquests of the new day, amplifying those of yesterday, must be made; continuity must be assured. There can be no thought of mustering out until Similia is as free from strife as is the law of gravitation or the astronomy of Copernicus.

Great work remains to be done. First: In defining more clearly the boundaries within which Similia Similibus Curentur is supreme. This was emphasized by Hahnemann in the injunction, "Remove the Cause." The drug remedy is not applicable until the cause of the malady has been removed. This confines the action of medicine to its legitimate range and defines at the same time other therapeutic measures, perhaps non-medicinal in character, that may have right of way or precedence. The claims of Physiology, Sanitation, Chemistry, Surgery, Electricity or

any other measure obedient to cosmic law have priority, on occasion, as the drug has, each having indications that are distinctive. Principles can never clash and none of them have ever been worn out or superceded.

Second: In carrying to higher development our knowledge concerning the ability of drug agents. No final and complete provings of the substances used as medicines have been made. What their influence actually is upon normal individuals, as shown by modern tests, has not been adequately determined. It is necessary that this should be carefully wrought out, so that a purified and exact materia medica shall be our priceless possession. The wheat must be winnowed before going to the mill; all chaff must go. This work so far advanced must be carried to completion by a corps of specialized investigators. It is laboratory and experimental work that is required, and the closest care and oversight is needed.

The foundation and endowment of schools of research are thus made mandatory and homeopathic progress is dependent upon it. This will be propagandism of the utmost value. must and will choose the best when they see it. All effort should be made therefore to support and foster our schools of learning, and especially our institutions for original work, such as the Hering Memorial and the evans Research laboratories. an age distinctively scientific, when knowledge must be co-ordinated, arranged and systematized; when all that is empirical or baseless as to proven fact must lose standing and pass from view. The great work of our day is to remove all that is obscuring and to render clear the validity of the law in all its bearings. truth of the Law of Similars is not a matter of opinion, but capable of absolute proof.

Fourth: In impressing the general profession still further with the superiority of homogopathic methods. In this age. when therapeutic agnosticism, is prevalent on every hand and when the highest claim to confidence of the modern practitioner is that he "gives no medicine," it is evident that great need exists for higher education. To these eminent physicians, who

are thus expending their time acting merely as the supervisor of a trained nurse, Homosopathy brings the immense assistance of the intelligent and efficient use of remedial agents. The longevity of therapeutics and the perpetuity of the Healing Art can be insured in no other way.

Homeopathy is the only contribution to therapeutics that has not contradicted itself or changed front repeatedly in a century. Like the Ten Commandants it stands today in its original outline, while the scrap pile of the opposition has grown to mammoth and ever increasing proportions. So long as the chief end of the medical man is to capture an office and the political game of "grab" now in progress is unfinished the Science of Medicine will be hampered and true progress will be more or less at a stand-still.

The Homeopathy of the Future will be the Homeopathy of the Past, continued, expanded and rounded out into harmonious relations with all correlated science. Its truth is more pertinent now than at any time in history, and will be more and more compelling.

Homosopathy challenges the world as the science of the future. The Journal of the American Institute of Homosopathy, April, 1913.

EDITOR'S NOTES.

Carduus Marianus in Influenza.

This remedy is indicated in those cases of influenza in which the liver is affected. The left lobes of the gland are very sensitive to pressure, the stools are of a bright yellow colour, the urine is a dark brown; there are occasional stitches in the side, and great oppression There are also great debility and fever present, besides in the chest. A headache of a frontal nature worries the much prostration. patient, and complexion is of a most peculiar brownish-grey dirty hue, and at times of a jaundiced colour. From 2 to 3 minims of the ix dilution, administered every three or four hours, usually promptly cures, even after other prominent hepatic remedies have failed. Carduus Mar. has for it analogues Podophyllum peltatum. Chionanthus Virginica, Leptandra Virginica, Bryonia alba, Nuw voilica and Chelidonium majus-all proved hepatic remedies. It is an important remedy in cases where there is pain in the liver, accompanied with cedema of the feet, urine, of a bright yellow colour and scanty, and occasional attacks of asthma. In fact, "asthmatic" respiration is a prominent symptom of the drug. In swelling of the gall-bladder, accompanied with a painful tenderness, it is one of our first remedies. The Homocopathic World, June 1, 1913.

Infants' feeding bottles in Germany.

The draft of the Bill regulating the sale of infants' feeding bottles in Germany is extremely brief and consists of three short paragraphs. In the first it is enacted that the manufacture, sale, importation, or stocking of infants' feeding bottles with a glass or indiarubber tube is forbidden, and the same applies to the component parts of such bottles. Infringement of this law will be punished by a fine not exceeding £7 10s., or punishment; at the same time the articles may be impounded whether they belong to the culprit or not. conviction of certain persons is impossible, seizure of the articles can This law is to be enforced three months after its publication. In the introduction to the Bill it is stated that one-third of all cases of death among i fauts are due to affections of the digestive tract, and that medical men have declared that feeding bottles with tubes, owing to the difficulty of properly cleaning them, are particularly apt to cause gastro-intestinal disease. The Lancet, July 5, 1913.

Some Pointers in Children's Diseases.

The following pointers on children's diseases were given by Dr. Simonson at a meeting of the N. Y. M. M, Society:

Arnica mont., 3c or 3x. In scurvy although we do not meet with many cases nowadays. It is valuable where there is marked pain and soreness.

Hamsmelis may also be indicated in similar condition, but without the soreness.

Asclepsias tuberosa 3x. Bryonia is often given when Asclepias tuberooa is indicated. The cough is dry, harsh and painful. In squills the cough is dry, harsh and painful. In squills the cough is loose and painful. In Cali carb, the cough is accompanied by sharp pleuritic pains.

Baptisia 3x. Indicated in chronic obstinate intestinal toxemias of children with fetid stools and eructations.

Calc. fluorica 12x, Swollen glanduiar conditions.

Erythroxylon Coca 6c Chamomilla often given when this remedy is indicated. The child does not sleep well; wakeful due to reflex irritation; erythism; mental excitement; nocturnal enuresis due to relaxation of thesphincter.

Heckla lava 6c. In indurated glands of the neck.

Hydrocyamic acid 6c. Collapse due to some pulmonary condition; not a cardiac collapse in disseminated bronchopneumonia. There is marked cyanosis; the pulse is bad: we have a venously congested lung.

Kreosote. Painful restlessness of dentition; sick cry; heavy sleep early evening; anxious restlessness the rest of the night; offensive excoriating stools.

Lapis albus. Fat anæmic babies, with iodine appetite.

Magnesium carb 6x. Infants whose intestinal canal will not tolerate milk; marasmus; hyperæsthesia.

Rhaphanus. Flatulent solic; cannot relieve gas either way,—The Hommopathic Recorder, April 15, 1913.

X-Ray in Dermatology. Its Uses and Limitations.

Medical enthusiasm is a dangerous thing, but not more so than medical apathy. Great discoveries are heralded as a conquering hero and as soon forgotten, and as we pass on we often lose sight of the good things which they have brought to our door. The standard remedies which our fathers relied upon and which brought them great success are too often forgotten by the present generation in our scramble for the new but less tried medicines. We have spasms of reform both in civic matters and in medicine, and are inclined to regard the things of yesterday as unfit today.

Only a decade ago the world went wild over X-ray, the newly discovered agent so potent in therapeutic posibilities. Every-body used X-ray for everything and our patients clamored for more.

The promiscuous and indiscriminate use of X-ray by the inexperienced and on cases in which it was not indicated, together with many harmful results and damage suits soon elicited a cry of distress and again the pendulum began to swing the other way. Indeed very little is said or written on X-ray as a therapeutic agent today, and I am here to say that we are very rash in discarding so potent a power and so valuable an agent.

X-ray is one of the most valuable remedies that we have, but it will not cure everything. Ripened by a dozen years of practical work, rich in clinical experience, the profession should be in a position to place X-ray in its proper setting. It will do the same thing today that it did ten years ago, and add to this the great improvement in coils and apparatus, the greater skill of the operators who have been tempered by experience, the devices for measuring the dose and the possibility of selecting cases which are amenable to treatment, the results are not only as good, but much better than they ever were before.

The wise operator will discard such cases as are known to resist X ray or in which but transitory results can be hoped for. No conscientious physician of today would think of urging X-ray treatments unless there was a reasonable assurance that the results would be satisfactory.

No dermatologist can well afford to be without X-ray, for it will actually cure a great many skin diseases and is a valuable adjunct in others. The writer will not attempt an accurate percentage, but, suffice it to say, that it will cure practically all of the superficial parasitic diseases of the skin, such as the various ring-worms. The

more chronic the dermatosis the more likely would X-ray be indicated; such diseases as have a thickened or infiltrated base and show an inclination to remain in a dormant state would all be benefited by X-ray. To this class belong chronic eczema, lichen planus, psoriasis, benign keratosis, verrucha and granulomas and ulcers. In acne vulgaris and in rosaceæ it is extremely useful and often curative, but of course internal medication and dietary regulations are equally important and should be instituted at the same time.

Superficial tubercular affections of all kinds, such as lupus vulgaris, tubercular ulcer or the scrofuloderms, are all amenable to the use of the X-ray when skilfully given. It will not cure them all, but the per cent. of cures is high. X-ray will stop itching weather in pathologic lesions or in ordinary pruritus. In the precancerous stage of epithelioma its action is quite marvelous and will cure a large per centage of these cases, but it is the practice of the writer to curette all such lesions first, removing all pathology down to healthy tissue, and, after using a strong styptic such as chromic acid, 25 % (aqueous solution), to follow up the treatment by X-ray, using a few treatments, but active ones.

It is desirable to produce a mild local reaction and stop. The benefit to be obtained by X-ray in these cases comes with a few well directed treatments if it is to be attained at all. Just here let me decry the long drawn out course of treatments given superficially, fifty to one hundred times.

In cancerous growths X-ray is but palliative, and while it will do much good by way of relieving pain and checking the rapidity of its onward progress, it does not cure. As a follow-up treatment after surgical removal of malignant or semi-malignant neoplasms, or in any doubtful cases, a course of X-ray treatments should always be instituted.

X-ray is not a cure-for-all nor would I advocate using it without giving the indicated internal remedy at the same time, but it will do certain definite things with great certainty and we cannot afford to be without it. It does not act well on syphilitic gummas or ulcers; in fact, it often makes them worse. It does not act well on bone and seldom brings about recovery in osseous pathology. It is not indicated in acute inflammatory conditions such as acute erysipelas, acute dermatitis and the like. The majority of cases of lupus erythematosis do not react kindly to X-ray, although an occasional case may be benefited thereby. Lesions of the mucous membrane are slow to respond to X-ray and often resist it entirely.

Visceral affections are not benefited by X-ray with the exception of a few, such as splenic leukæmia in which the tumor may be reduced, but it does not stay the progress of the disease. It is not within the scope of this essay to deal with X-ray from the standpoint of surgery and diagnosis where shadowgraphs have become a prime necessity, and if it were never used for anything else the world would bow in homage to this great benefactor.

Some may point out its dangers, but, suffice it to say, that these dangers are minimized by a knowledge of its elements, and no sane man of today would presume to use it until he became a master of the art. In all fairness we must say that X-ray is a valuable adjunct in the treatment of many skin diseases and that its field of usefulness is quite definitely defined, and that it is gratifying to find that it is being used by fewer men, but is used much better. The Journal of the American Institute of Homocopathy, April, 1913.

Kala-azar in Assam.

In a supplement to the last annual report of the Sanitary Commissioner of the now divided province of Eastern Bengal and Assam there is published a short but interesting paper by Captain W. L. Harnett, I.M.S., civil surgeon, Kamrup, on the prevalence of kalaazar during recent years in the Rangiya circle situated in his district. The inquiry and report were made in continuation of a similar investigation respecting the disease in the Golaghat subdivision, but the present inquiry was conducted apparently on less ambitious lines. being practically limited to ascertaining which of the villages in the circle were infected, the extent of the infection, and probable date of the first appearance of the malady in each village. Harnett supervised the work and prepared the report, but the actual investigation on the spot was made by temporary Sub-assistant Surgeon Purushuttam Das Navis, who began his duties early in 1912. The implicated area lies north of Rangiya in the Kamrup district and in the neighbourhood of the main road to Bhutan. tants of the locality commonly take up temporary during the cold months of each, year as tea-garden coolies in the gardens of the Darrang district or in more distant parts of the province, returning to their villages in the hot weather to cultivate These people attribute the existence of kala-azar their own land. in their midst to infection contracted while working in the tea gardens and brought back by returning villagers to the Rangiya

circle. During the course of the inquiry 67 villages were visited and 14 of them were found to be infected. The population of the affected area is not stated, and house-to house visits for the discovery of cases do not appear to have been made. It was assumed at the beginning of the investigation that the clinical recognition of the disease presented little difficulty, and for this reason it was not thought necessary to make microscopical examinations; but Captain Harnett in his visits for supervision of the work satisfied himself that the cases diagnosed by the sub-assistant surgeon were actually instances of kala-azar infection. It was elicited that during the past 11 years 82 deaths had been attributed to the malady in the 14 infected villages, and that at the present time 26 persons were suffering from the disease. This area may therefore be regarded as a focus of kala-azar infection. The information obtained is valuable and interesting, but in some respects it is disappointing as it throws little light upon etiological or epidemiological points. Captain Harnett himself, in his concluding remarks, frankly admits that the report is lacking in various respects, and he express regret that the subassistant surgeon who made the local inquiries failed entirely to realise the important bearing which some of the missing details would have had upon the points that he was instructed to try to elicit. the Lancet of September 20th last year we drew attention to some of the important epidemiological considerations associated with Indian kala-azar and to the persistence of the malady in the province of Assam, especially in the tea-growing districts. In three of thesenamely, Nowgong, Darrang, and Kamrup-from 1891 to 1911 the deaths of no fewer than 152,000 persons were ascribed to this terrible, and as yet incurable, disease. The comings and goings of the tea-garden coolies afford, apparently, opportunities for the diffusion of the disease not only throughout Assam, but to other parts of While local inquiries turnish useful and interesting information, they do not go far enough to throw light on the still ansolved problems for which solution is urgently needed. This end will best be secured by comprehensive investigations on a large scale and covering a wide area, conducted by the trained etiologists and expert epidemiologists who are to be found in the ranks of the Indian Medical Service. The Lancet, July 5, 1913.

The Refinements of Detection.

"In spite of the extreme delicacy of many scientific tests, notably those in which the services of the spectroscope and the electroscope are enlisted, the eye and the nose are capable in regard at any rate to some substances, of an equal refinement of detection; they can detect quantities inconceivably small. When we reflect, for example, how great is the tinctorial power of some of the modern aniline dyes, it must be obvious that in very great dilutions when the eye still observes colour the quantity of material present must be quite microscopic. The rhodamine dye classed as G extra continues to show distinct colour obvious to the eye in a solution when there can be present only, and probably less than, a one-tenth billionth of a gramme. This means that in a milligramme of solution there is present at least one particle of colour substance weighing less than 0.000,000,000,000,000,1 gramme.

"The sense of smell is capable of detecting even smaller amounts of particles, for the presence of otto roses in the air is readily recognized when only one-third of a thousand-billionth of a gramme, (0.000,000,000,000,000,333 grm.) of the volatile oil is present in a cubic millimetre of air. . . When the extremely minute quantities of substances which it is possible thus for the optic and olfactory nerves to detect are compared with the capabilities of, say the spectroscope, it will be found that the human mechanism compares favourably with this instrument in regard to its powers of detection. When we find that the spectroscope will, in the case of neon, detect the presence of 0.000,005 c.c., and in other examples 0.000,06 mg. of strontium, 0.000,01 mg. of lithium, and 0.000,000,3 mg. of sodium, it will be seen that these quantities are gross compared with the detective powers of the human nerves. In the electroscope, however, the human agencies meet with a formidable competitor, for delicate electroscope is nearly a million times more sensitive than a spectroscope."—The British Homeopathic Journal, April, 1913.

The Vitality of Cimex Lectularius.

Some experiments carried out recently in the Runcorn Research Laboratories of the Liverpool School of Tropical Medicine on the resistance of the bed-bug to various powders, liquids, and gases designed for its destruction are reported in the last number of the Annals of Tropical Medicine and Paraeitology by Dr. B. Blacklock.

In houses it infests the bug dwells in some place where it is protected from attack. It prefers a refuge close to its human source of food supply, and therefore prefers to live in the crevices of a wooden or behind the wall paper close at hand, but as it is a rapid walker its refuge may be in a remote corner of the room. It feeds rapidly. running from place to place, stopping for a few seconds to puncture the skin with its stylets, suck up some blood, and pass on. In a few minutes it is swollen and shiny; it appears that it does not as a rule defecate at once on or near its host, so that there may be no marks on the bedclothes, even though bugs be plentiful in the room. Eggs may be laid within twelve hours after feeding; they hatch out in seventeen days at ordinary summer temperature, and the young can begin to feed within an hour or two. The vitality of the eggs was found to be destroyed by immersion in cold water for twenty-four hours, and the young are destroyed by moisture, their legs and antennæ becoming glued together. The insect powders in common use appear to act mechanically. The powder must be fine, dry, and light, and must come thoroughly into contact with the bug; the fine particles then adhere to the body, antennæ, and legs, the insect turns on its back and so struggles until it dies, after a period varying from a few minutes to several days. The eggs do not seem to be injured by the powders, but if the young hatch out in contact with powder they often become entangled and may die. Bugs do not drown easily, though immersion for twenty-four hours is too much for them; they are killed by boiling water poured on to them, but can with-stand water at ordinary scrubbing temperatures. Of the other liquids tried, carbolic acid (5 per cent. and 10 per cent.), mercury perchloride (1 in 1,000), and paraffin oil, the last was the most efficient, but they can walk over a board smeared with paraffin and survive. There is no evidence, therefore, that insecticide powders or liquids can be depended on to clear bugs out of a house under domestic conditions. Gaseous substances present the best prospect of success, and of such substances sulphur dioxide is both effective and cheap. It kills both the insect and its egg and acts more rapidly at a slight pressure. Unfortunately bugs are not easily killed by deprivation of human blood. A bug kept in a glass tube by Geer without any food at all lived for a year "quite comfortably." Blacklock kept some in a glass tube for three months. and at the end of that time they were still alive and active. In another experiment he put thirty newly-hatched bugs in a tube; some of them died from time to time and their bodies disappeared,

but at the end of three months nearly half (fourteen) were alive and active. He states, as a matter of common report, that in the case of old barges infected with bugs very prolonged complete immersion of the woodwork does not destroy the insects, probably because they are so securely hidden that the water never actually comes in contact with them. Considering the tenacity of life they display, it would appear that the means used for their extermination in a house—even sulphur dioxide gas—should be repeated after an interval of a few weeks. The expense of the inquiry was defrayed by Sir E. Durning-Lawrence.—The British Homosopathic Journal, April, 1913.

Toads and Warts.

We have all heard the old grannies say that warts were due to handling toads, and have laughed at the notion. Quite a long time ago we disproved this statement by personal experiment, but we also proved that rhus toxicodendron was harmless-to the same subject of experiment. In the light of recent discoveries showing the presence of an irritant poison-buffonin-in the skin of the toad, and a similar one in the frog, we are rather inclined to place some credence in the toad theory of production of warts. and Loewy have reported that the arrow poison of the Indians of Columbia is derived by pricking the skin of a frog. This poisoning paralyzes the animal shot and enables him to be captured even if slightly wounded. Now don't understand us to claim that all warts are due to handling toads, or frogs, nor that every child handling a bactrian develops warts. But papillomas generally are due to irritation, perhaps especially of a chemic nature. Warts are undeniably more common in country dwellers than in city * dwellers, they are more common in the summer than in the winter, though often persistent, they are more common in the young and rarely affect adults who are careful as to their hands. We suggest that, this summer, our readers investigate the etiology clinically, with a view to determining how far exposure to various irritants is operative, and with particular attention to the toad theory and to ascertain other potential causes. - Buffalo Medical Journal, June, 1913.

Centenarians.

Mrs. Polly Trinkle died March 11, 1913, at Bristol, Tenn., aged 113.

Thomas Sullivan of Williams Bay, Wis., celebrated his 112th birthday March 10, 1913, by swimming in the bay. He claimed that this was his 100th annual swim. He is the keeper of a summer resort.

Mrs. Barbara Ann Dillinger of Stoneboro, Pa., a real daughter of the Revolution, died March 25, 1913, aged 104, after a short sickness.

Rev. P. Carylon of Falmouth, Eng., has recently clebrated his 100th birthday.

Alexander Daylight, an Indian of Kettle Falls, Wash., died about March 1, aged 114.

Milo Warrick and his wife of East Liverpool, O., celebrated their 80th wedding anniversary March 18. Mr. Warrick is 100 years old, his wife a few years younger.

Samuel Keefer, a farmer near Penn Yan, N. Y., has passed his 103d birthday. He is the oldest living graduate of the Albany Normal School. His sole attack of illness was from blood poisoning ninety years ago. He is still active and does most of his reading without glasses.

Jean Phillippe Vallee of Bar-le-due, Belgium, a veteran of the Revolution of 1830, is living at the age of 104.

Maria Tom, a gypsy of Savannah, Ga., is in good health, in spite of having smoked practically all her life, at the age of 109.

James Ward, a native of Ireland, died in the Industrial Home of St. Catherines, Ont., April 8, aged 106, after only a week's illness.

Mrs. Martha Bowers died at the State Odd Fellow's Home of Lockport March 18, aged 102.

Rev. David J. Higgins, a retired clergyman living near Los Angeles, holding bachelor's, master's and D. D. degrees, has applied for admission to Hamlin College.to secure the degree of Ph. D. He is over 90.

The following notes are from the Boston M. and S. Journal:

John Munsinger of Howard, Kan., is said to have been born on Dec. 14, 1812, and to have already 144 living descendants. He attributes his excellent health to his moderation in all things. He

has never tasted alcoholic beverage, but has smoked tobacco temperately for the past 80 years.

Charles Weidner of Sparkhill, Rockland county, N. Y., is said to have been born on March 14, 1811. He can still read without glasses. He eats sparingly, and never uses alcohol or tobacco.

Jean Boudin of Toronto, Canada, is locally reputed to be 122 years old. He has one living great-granddaughter. His long-evity he ascribes to a diet of baked apples, brown bread, and boiled milk. He drinks no alcohol, but smokes tobacco freely.

Mr. W. Allison, a veterinary surgeon, who died recently at Harrowgate, England, is said to have been born on Dec. 4, 1812.

Rev. Abraham Isaac Trager, a rabbi who died recently at Charleston, S. C., is said to have been born in 1807 in Russia. He migrated to New York in 1850. He is survived by two aged daughters, 23 grandchildren and 30 great-grandchildren.—The Buffulo Medical Journal, June 1913.

Historical Medical Museum.

The Historical Medical Museum, organized by Mr. Henry S, Wellcome, which is to be opened in London towards the end of June next, will include some objects of exceptional historical medical interest.

An important exhibit in the science section will be a large collection of the original apparatus used by the famous Galvani in making his first experiments in Galvanism in the eighteenth century.

A remarkable collection of votive offerings for health will be exhibited. The custom of presenting these offerings in cases of sickness is a very ancient one, and the collection that will be shown is probably the finest ever brought together. It will include Graeco-Roman votive offerings of special anatomical and pathological interests in silver, bronze, marble and terra cotta, together with a number of similar objects used for the same purpose in medieval and modern times.

Ancient microscopes and optical instruments, gathered from all quarters of Europe, will form another important feature, and a selection of surgical instruments used by famous surgeons when operating on historical personages is promised.

The collection of amulets and charms connected with English folk medicine will be very complete, and will constitute an exhibit of more than ordinary interest.

A fine collection of early medical medals and coins from the Graeco-Roman period, ancient manuscripts and early printed medical books, will also be shown, together with many other objects of interest to medical and scientific men.—The Buffalo Medical Journal, June, 1913.

Salt.

The excessive use of salt, according to Dr. W. B. Parsons (Medical Era) causes many troublesome symptoms. "Seeing things," dizziness, loss of memory, even epileptic seizures have been found among them. He cites a number of cases that he cured by stopping their intake of salt.—The North American Journal of Homeopathy, July, 1913.

Wood Alcohol Causes Blindness.

Thirteen persons in this state were made blind for life and four were killed during the past year either by drinking wood alcohol or inhaling its poisonous fumes, while throughout the country hundreds of persons have been innocently victimized by the same poison, according to the Fourth Annual Report of the New York committee on prevention of blindness.

The report further states, what is not generally known, that although wood alcohol in as small a quantity as a teaspoonful has caused permanent blindness, and in larger quantities often causes death, this poison is easily obtainable from various retail stores, drug stores and grocery stores, often without a label or warning to indicate its poisonous nature.

Rectified wood alcohol may be easily mistaken for "good" or grain alcohol, and because of its resemblance, is frequently used by ignorant or unscrupulous persons to adulterate cheap liquors. In the trades it is sometimes used in the preparation of bay rum. paregoric, flavoring extracts, Jamajca ginger and in some patent medicines.

The committee reports the case of one woman who became hopelessly blind as a result of drinking wood alcohol contained in paregoric which she had bought at a reputable drug store. Another case is that of a young clerk who drank white whiskey from a friend's recently filled flask, and was totally and irreparably blind the next morning because the whiskey was adulterated with rectified wood alcohol.

The inhalation of the fumes of wood alcohol causes blindness. This usually occurs in those varnish industries where wood alcohol is used as a solvent for shellac—for example in varnishing the inside of beer vats, varnishing lead pencils and furniture.

Since industrial, or denatured, alcohol (untaxed grain alcohol made undrinkable by the addition of wood alcohol and benzine) can be used in practically all manufacturing processes where wood alcohol is now employed, and is safer and no more expensive, there is no longer any legitimate reason for the present wide use of wood alcohol. However, the use of wood alcohol would be robbed of its terrors if it were used in the presence of adequate ventilation.

Two men were recently killed and one blinded in New York City while varnishing beer vats, because a ventilator was not attached to the vats, while another man was blinded and one killed because the necessary thirty minutes in the open air was reduced to twenty minutes.

The general ignorance which prevails in regard to the poisonous nature of wood alcohol is evidenced by the lack of legal restrictions of its use. In no state in this country is there a law requiring adequate ventilation in industries where wood alcohol is used, while in very few states is wood alcohol classified as a poison and so labeled.

The unnecessary deaths caused by wood alcohol poisoning and the pathetic cases of needless blindness from the same cause can only be prevented by such legislation, and by the education of the lay public concerning the death and disease following the misuse of any form of wood alcohol.—The North American Journal of Homeopathy, July, 1913.

Modern Thoroughfares and Disease.

In addressing the Third International Road Congress at the end of last month Mr. John Burns made a bold claim for modern thorougfares. After stating that in Battersea roads which in 1905 cost over £22,000 to sweep and cleanse cost only £16,000 in 1912, and that the refuse which had to be carted away had diminished in

the same period by half, the President of the Local Government Board attributed a wonderful diminution in infant mortality and infant diseases to the introduction of the impermeable road and the tar-paved street. The disappearance of horse traction and the incoming of the motor vehicle and of tar pavement in the side streets had, he believed, also made a tremendous difference in the minor ailments and the general health of the whole community. We have not met with any complete study of this question in recent public health reports. and it is possible that in giving these views Mr. Burns was speaking of what may reasonably be assumed to have taken place rather than of proved fact. The assumption, however, can be supported by an abundance of a priori argument. As regards infantile disease, the road with uneven surface, badly drained and paved, the dust of which is loaded with horse droppings and receives house sweeping and other contaminations, must be a fruitful source of infection, either directly to children playing on the pavements or indirectly by being carried into the houses, where it infects milk and other food materials. This has been illustrated by the experience of many towns, where the efforts made in recent years to seal the surfaces of back-yards and abolish the open ashpit have been followed by a striking reduction in the mortality from epidemic diarrheea of The spread of this disease by means of house flies has also to be remembered, since the diminution in the number of horses kept in mews and back streets in London and other cities entails a reduction in the breeding grounds of these insects. As to road dust in general, it is claimed that in remedying the dust nuisance created by motor traffic our urban authorities have succeeded in reducing it below its original level, and though notable exceptions must be in the experience of everyone the great progress which has been achieved generally is beyond question. All will share Mr. Burnr's hope that this improvement is leading to the reduction of catarrhal and other ailments which are classed as "minor," and when consideration is given to the numerous ways in which dirt may indirectly. contribute to ill-health, the hygienist can endorse and actively support the endeavour of the President of the Local Government Board to speed up the action of local authorities in improving the surface of roads in all possible ways.—The Lancet, July 12, 1913.

CLINICAL RECORD.

ECZEMA AND GOITRE CURED

Dr. Truman Coates.

A graduate of "Old School" in 1888, although willing, yet anxious, to accept the good wherever found, and knowing our limitations, a few years ago I strayed into neighboring pastures led by a case of very stubborn eczema in a woman of middle life. The trouble at times, especially after becoming heated from undue work in sunshine, covered her face, hands and exposed parts of her arms, the skin being very red and exasperatingly itchy and thick.

After repeated failures in my efforts and those to whom I applied for assistance, I sought for help in the domain of Hahnemann, when I was recommended to give Skookum chuck 3x, four tablets q-d-, and to my surprise and our thankfulness the case was cured in two weeks, the lady never had an itchy skin again and the skin cleared up entirely. If we have anything in our school that will do this it was my misfortune to never find it.

A year ago a lady of fifty-seven years applied to me for relief from a pain in her right brow, toward the temple, attacking her at frequent periods nearly all her life. There years previously I corrected her eye strain with lenses, which dissipated at least half of her suffering. I gave her Magnesia phos., somewhat irregularity for a few weeks, with but partial relief from pain, but to our surprise and real joy a goitre on right side, in size very noticeable even through an ordinary collar, was gone; not a vestige was left. I at once began research for such and found in Dr. Vondergoltz's Biochemical Manual that Magnesia phos. is the second remedy he recommends for goitre- To this day the goitre is not to be seen.

I might continue relating further results especially in nasal catarrh and adenoids in cases of children from eight to seven-teen years, but the foregoing is likely enough for my maiden effort in new company,—The *Homæopathic Recorder*, April 15, 1913.

Gleanings from Contemporary Literature.

SOME FIGURES IN MEDICAL HISTORY.

JOHN CAIUS.

JOHN CAIUS, though he can scarcely be said to have contributed to the advance of medicine, deserves honourable remembrance by members of the profession of which he was one of the brightest luminaries in the sixteenth century. He flourished at the dawn of the new day of knowledge which marked the passing away of old beliefs and the breaking of old traditions. Caius's temper of mind was literary rather than scientific, and although in Italy he lived in close intimacy with Vesalius, who overthrew the idolatrous worship of Galen, which held men's minds in the bondage of authority, he always looked backwards to the past. But he did much by his scholarship to uphold the dignity of his profession. The high esteem in which he was held by his brethren is shown by his repeated election to the office of President of the London College of Physicians, and his reputation for skill in the art of healing won for him a large practice. Among his patients were many persons of distinction, including three Sovereigns-Edward VI, Queen Mary, and Queen Elizabeth. The wealth thus gained he used with enlightened liberality in adding to the buildings of Gonville Hall, Cambridge, of which he had been a scholar. His additions were so extensive that he made a new and handsome college out of what he called "the pore howse now called Gonville Halle." Hence he is deservedly called the second founder of Gonville and Caius College. The four hundredth anniversary of his birth was celebrated by the Master and Fellows of that foundation on October 6th, 1910. It had previously been decided that the quater-centenary should be further commemorated by the republication of his printed works. This has taken the form of a hand-some volume most ably edited by the Master of the College, the Rev. E. S. Roberts. The volume is introduced by a memoir of Caius's life, written by Dr. John Venn, who with notable industry and literary skill has made a critical digest of all available materials. Out of these, though they are for the most part of the kind congenial only to Dryasdust, he has produced an excellent biography. He has breathed life into the dry bones of forgotten academic controversies, has given form and substance to what is for men of to-day only a pale shadow. Caius's foundation has a particular interest for us, as its distinctive character is that it is a medical college. The names of William Harvey and Francis Glisson and many others who have writ their names large in the history of medicine give it a special character and tradition which are most worthily maintained by the present very distinguished Regius Professor of Physic. The Royal College of Physicians has associated itself in the commemoration of a former President by sharing with Gonville and Caius College the labour and expense of issuing the volume.

In the sketch of Caius's career here given we have followed Dr. Venn's narrative as far as it deals with his life at Cambridge, adding some touches relating to his professional career from Munk's Roll of the College of Physicians, or rather from John Aikin's Biographical Memoirs of Medicine in Great Britain from the Revival of Literature to the time of Harvey, from which Munk's account is a vowedly taken.

John Caius was born at Norwich on October 6th, 1510. His father. Robert Cains, though living in Norwich, was of Yorkshire origin. His mother's name was Alice Wode, or Woda, though it is given by Cooper, who is followed by Munk and other biographers, as Wodanell, by an absurd misreading of an account of Caius given in some Italian record. It has been conjectured that he was connected with some branch of the well-known Yorkshire family of Kaye or Kay, but the recent discovery of the sheets containing the bursar's accounts whilst Caius was a student do not confirm this. In these his name occurs in ten different forms (Kees, Keys, Keis Kesse, Kains, Keyse, Cayus, Keysse, Cains). It will be observed that all these forms end with the letter or the sound "s." This shows that the familiar pronunciation of his name is not a conventional rendering of the Latinized name Caius, but a perpetuation of the sound of the English name by which he was known amongst his contemporaries. But it may be pointed out that the name was sometimes written without the s; he is addressed by one poetical panegyrist as 'Cay." Dr. Venn says that the name of the college should be written "Keys," Caius entered Gonville Hall on September 12th, 1529, at the age of 19; he was therefore considerably older than most of his contemporaries, who were sent to college at the age of 14 or 15. The College, like the University and the whole country, was going through a period of transtion. There was still a number of monks sent by the various communities to which they belonged, and there was also a small but active body of resident fellows and masters of arts who were in sympathy with the new order of things in religion which was beginning to gain sway over the minds of men. A change was coming over the face of the University, and that this was not pleasing to Caius is shewn by his disparaging comparison of the undergraduates of his day with those of 1538 when he went back to Cambridge for the first time. He graduated B.A. in Januray 1532-3, being first of his year in the order of seniority, that is as Dr. Venn points out he was what would now be called "senior wrangler." He commenced M.A. in 1535, was elected a Fellow of his college in 1533, and retained the fellowship till 1545. His bent in early life was towards divinity; and Dr. Venn conjectures that he had intended to enter the Church but was diverted to medicine by dislike of the Reformation. He was for his day an excellent classical scholar, and was a diligent student of Hebrew. He seems to have got at an understanding

of Anglo-Saxon solely from the study of manuscripts. We may take it, therefore, that he had a decided taste for philology.

In 1539 he went, as was then the custom of Englishmen, to Padua to study medicine. He devoted four years to study in that famous centre of medical knowledge, "his best and most learned teacher" being Johannes Baptista Montanus. Vesalius, who was professor of anatomy at Padua from 1537 to 1544, was at that time engaged in the preparation of his great work, De Fabrica Corporis Humani, which first saw the light in 1543. Caius lodged for eight months in the same house as Vesalius, but his devotion to the ancients seems to have prevented his coming under the influence of his fellow-lodger.

Caius graduated doctor of arts and medicine at Padua in 1541. His classical knowledge must have brought him into note, for shortly after graduation he was appointed a professor of Greek dialectics at Padua, probably a unique distinction in the case of an Englishman. In 1543 he left Padua, and after studying for a short time at Florence and at Pisa he visited all the cities of Italy in which there were valuable libraries. public or private, the special object of his search being manuscripts of Galen and Hippocrates. He gave most of his time to the collation of these with the object of getting a correct text. He returned to England in 1544 or 1545, by way of Switzerland, Germany, and Holland. He probably stayed some time at Basle, as his work De Methodo Medendi, the preface of which is dated May 15th 1544, was printed at the celebrated Frobenian press of that city. Probably at that time he became acquainted with Conrad Gesner, the celebrated naturalist, with whom he formed a close and lasting friendship. It was to Gesner's Historia Animalium that Cains supplied the description of a number of rare animals. The treatise on British dogs was written for him, but Gesner died before he could make use of it. Cains therefore revised and enlarged the work. which had been hastily written, and published it under his own name.

On his return to England he is said by Aikin and Munk to have practised his profession at Cambridge, Norwich, and Shrewsbury before settling in London. Dr. Venn, however, can find no authority for this statement, he thinks it unlikely that Caius, who was always a great precisian in the matter of rules and forms, should have practised without an English qualification. He seems to have taken no steps to be incorporated as M.D., and he had no English qualification till he was elected a Fellow of the College of Physicians in 1547. He probably resided in Cambridge after his return from abroad for some time before settling in London. He ceased to be a Fellow of his college and left Cambridge on September 29th, 1545. He took a house in the parish of St. Bartholomew the Less, and practice soon Jame to him in a full tide. His professional standing was swown by his appointment as physician successively to Edward VI, to Mary, and to Elizabeth. It is said that Elizabeth dismissed him in 1568 because he lay under some suspicion of

popery. Dr. Venn thinks that his frequent calls to patients of position in different parts of the country gave him the wide knowledge of the country which he evidently possessed. In his description of rarer animals he refers to what he had seen in various parts of the country from Cumberland to the sea off Selsey.

In the College of Physicians he soon became a power. He bacame an Elect in 1550 and was Consiliarius in that and the following year. He was chosen President of the College in 1555 and annually re-elected till 1560. He was again elected in 1562 and 1563. In 1564 he resigned, and in giving an account of his stewardship, he pleaded that, on the score of his age and the necessity of frequent visits to Cambridge, but especially his seven years' tenure of office, his many labours and great expenditure, he might be relieved from further service. But it would almost seem, says Munk, that the Fellows feared the College could not proceed in its functions without the help of Caius, for notwithstanding this appeal, he was elected President once more in 1571.

He had a great love of symbolism, and to him is due the invention of the insignia of the office of president—the caduceus or silver rod, emblematic of a mild rule as contrasted with the iron rod of arbitrary authority; a book, signifying the knowledge which should be the basis of the College; a cushion, indicative of honour, and in a seal, the sign and pledge of fidelity. Caius was zealous in upholding the rights and privileges of the College and took a leading part in a dispute which in the reign of Queen Elizabeth arose between the physicians and surgeons as to whether the surgeon might give inward remedies in sciatica, French pox, or any kind of ulcer or wound, etc. He denounced the unlawfulness of such practice on the part of the surgeons, against the Bishop of London and Master of the Rolls with such effect that the Queen's commissioners unanimously decided in favour of the physicians. He was so strict in his observance of the statutes of the College that though old he would not absent himself from the comitia without special permission.

Among Caius's greatest services to medical science are the lectures on anatomy which soon after his return from Italy he began to deliver in the Hall of the Barber Surgeons, who had a licence by their original charter of 1540 to claim the bodies of our criminals annually for purposes of dissection. These are the first demonstrations of the kind given in England of which there is any record. His lectures were greatly appreciated. Sir George Baker thinks that Caius lectured before the Barber Surgeons because there were no subjects available at the College of Physicians. It was not till 1564, probably at Caius's suggestion, that the College obtained the like permission. Caius was the first to introduce the teaching of practical anatomy into this country. His public lectures on the subject probably did more for the instruction of the profession of his day than his numerous writings.

But his greatest work is what was virtually a new creation of the

college which bears his name. He conceived the design while he was yet a busy physician in London. After some considerable difficulties, legal and other, he obtained his charter of foundation and confirmation, dated September 4th-4th and 5th, that is to say-1557. Besides adding very largely to the buildings, Caius founded three fellowships, and twelve scholarships. Soon afterwards he conveyed the first of the large gifts of land and money with which he endowed the new college. This consisted of three manors, Croxley, near Rickmansworth, Herts, Runcton Holme, and Burnham Wyndhams, the two latter in Norfolk. These were all originally monastic property, Croxley having belonged to St. Albans, Runcton to Bury St. Edmunds, and Burnham to Wymondham. If it be true, as I)r. Venn thinks, that he was always a Roman Catholic at heart, this fact may help to explain the reason of his giving these lands, which he bought of Queen Mary, for educational purposes. Being a man of religious mind, he celebrated his new foundation with a soleman service on March 25th, 1558. It was in the reign of Queen Mary, and Mass was performed with full rites. Caius, who knelt before the high altar after Mass, handed the caduceus, the cushion, the salver, and the book of statutes to the celebrating priest with the words, "We offer these to God, to the Blessed Virgin, and to our Society." The priest placed them on the altar. Later in the day there was s teast, which was provided by Caius at considerable cost. Before the party broke up the Vice-Chancellor, in the name of the whole University, in gratitude for his beneficence, offered Caius the degree of M.D. in accordance with his Padua degree, and with the same academic seniority.

Caius, who had now, while still in the prime of life, expended a large portion of his fortune, seems to have intended to continue his professional work in London. Fate, however, willed otherwise. Bacon, the Master of Caius, died on January 1st. 1558-9, and on January 24th Caius was, much against his will, elected in his place. At that time the affairs of the college were in great disorder. The old buildings stood badly in need of repair, and the college, in his own words, had become "an Augean stable."

It is sad to relate that a man who had done so much for the college was an unpopular ruler. He was prematurely aged, his health was undermined, and the natural austerity of his infirmities. His heart was in the past, and he was out of sympathy with the new thought. The Follows of the college were mostly puritaus and bitter fanatic. They therefore looked on the Master with the suspicion of bigotry, and sought for opportunities of attack. These were afforded by some rather high-handed acts on Caiu's part. Complaints were also made of his keeping copes, vestments, and other "popishe trumpery" in his college, and of his setting up a crucifix and other idols within its walls. Certain of his statutes were described as contrary to "God's true religion and repugnant to the laws of our sovereign Lady the Queen." This is probably a reference to a clause asking for prayers for his soul.

Meanwhile, Caius went on with his architectural additions to the college. From the day of his election to the mastership he devoted all the emoluments of his office to the improvement of the college. It is interesting to note that one of the royal licences which he obtained from the Queen included a formal grant of bodies for dissection. This was for the purpose that

They [the students] and their successors shall have forever at their free discretion and will without the contradiction of anyone, two human bodies for anatomy, condemned by law for theft or homicide, and dying in the town, castle or county of Cambridge. And that they may freely dissect them at their will with the reverence due to the human body for the increase of medical knowledge; and the without any payment.

He gave careful directions in his statutes concerning these dissections, desiring that

Every year during the winter there shall be spent by the students of our college on anatomy and on the worthy burial of the dissected bodies at St. Michael's, 26s. 8d. The president and everyone residing in College, to attend the burial of the remains with as much respect and ceremony as if it were the body of some more dignified person; and this on account of the advantage they have thus received. And the master shall see that the students of medicine do not treat the body with any lack of respect or humanity.

It is to be feared, says Venn, that very inadequate use was made of this privilege. The foundation stone of the new buildings was laid on May 5th, 1565. Caius himself laid a stone inscribed with these words:

Dico istud Aedificium Sapentiae: pono hunc lapidem in fundamencum Aedificii in incrementum Virtutis et Literarum. In nomine Patris et Filii et Spiritus Sancti.

The quarrel between the Master and the puritan faction finally reached a head in the sacking of his rooms and the destruction of the ecclesiastical ornaments and vestments which he held sacred. Caius himself says the work of destruction was superintended by the Vicc-Chancellor, Dr. Whitgift, the Master of Trinity, and Dr. Goade, the Provost of King's. It is not surprising that Caius should have left the college after such an outrage, sanctioned and even encouraged by the authorities of the University. He returned to his house in London in 1572.

For many mouths before his death his strength had been failing. In a letter to Archbishop Parker, dated from Cambridge the last day of June, 1573, he says:

I can eate anything but yt swellyth in my stomocke and putteth me to payne longe after, so that I am afrayd to eate, and yf I eate not, such weakness enseweth yt I am not able to systeyne my bodie and strength. And thus doubtful of the one, the other will make an ende of me, yet content and submitting myselfe to Godes pleasure.

It may be remarked that Caiu's feeble digestion led him to try a remedy which was formerly used by some physicians in wasting diseases. Dr. Venn quotes the following passage from a book by Dr. Muffet:

What made Dr. Kajus in his last sickness so prevish and so full of frets at Cambridge, when he suckt one woman (whom I spare to name) froward of conditions and of bad diet; and contrariwise so quiet and well when he suckt another of contrary disposition?

Muffet entered the college in 1572, when the condition of the Master must have been a matter of common talk. Here perhaps we may be allowed a digression on the method of treatment here referred to. The physician named wrote his name "Moffet"; his christian name was Thomas. He was a Fellow of the College of Physicians, and in 1588 was appointed Censor. He died in 1604. Among his works one entitled Healths Improvement: or, Rules Comprizing and Discovering the Nature Method, and Manner of Preparing all Sorts of Food used in this Nation was more than once reprinted. We have before us an edition printed at London in 1655, and "corrected and enlarged by Christopher Benket, Doctor in Physick' and Fellow of the College of Physicians in London"; and another edited, with a life of the author, by Mr. Oldys and an introduction by R. James, M.D., printed at London in 1745. In each the passage quoted occurs with the following reflection:

Verily the diversity of their milks and conditions, which being contrary one to the other, wrought also in him that sucked them contrary effects.

Neither is woman's milk best only for young and tender infants, but also for men and women of tiper years, fallen by age or by sickness into consumptions.

Again he says:

The second sort (consumptions) is best recovered by sucking milk from a woman's breast, as most familiar to our livers and blood, needing no preparation (for it is onely blood discoloured) but onely application unto the flesh.

In G. J. Witkowskis's Les Seins et l'allaitement there are several references to this treatment. A Dupinet in 1622 states that the milk of women sucked from the breasts is good for consumptives, but points out that this treatment has its dangers. One of these has been referred to in the case of Caius. It may be remembered that Caligula was believed to have sucked his inhumanity from the breast of a nurse remarkable for her cruelty. Another is mentioned by Riviere (1695), who states that a fatal tuberculosis developed in a young woman who had given the breast to a consumptive Abbe. Geoffroy, Doctor Regent of the Faculty of Paris, in a Latin poem. entitled Hygiene (1774), says:

Nourish yourselves with milk, you whose strength has been exhausted by disease and who in the state of convalescence in which you are, have no more vigour than a child at the breast. At once the use of this food

reanimates your features, dissipates insensibly that mortal pallor which covered your face, fills out your cheeks which the bones seemed about to pierce and restores plumpness that pledge of health. After speaking of the various animals whose milk may be used, he says: There is none more likely to restore to you strength and health than that which your mouth will press out of the very breast of a woman.

This was held by some to be the best remedy for wasting diseases. Lemery speaks of it in 1759 and in the same century Tissot, after the example of Cornelius and others, ordered it for men fallen into debility, Milk was sucked direct from women's breast by the Duke of Alba, and the life of Batholomew de las Casas, the famous denouncer of the cruelties of the Spaniards, is said to have been saved in this way by an Indian woman. A somewhat unedifying story is told by Capivaccio of a young consumptive to whom two wet nurses were assigned their milk restored his strength to such an extent that he put each of them in a position of giving him a fresher secretion at the end of nine months. Witkowski himself says he cured an octogenarigh suffering from dyspepsia with obstinate vomiting by making him suck the breast of two nurses alternately during three months. He adds that the faster Merlatti after his wager recovered his strength rapidly by this means, and it has been hinted that some fasting men use the same means to enable them to keep up their hunger exhibition. The most celebrated example of this kind of feeding is of course that of the Greek, Cimon, who in prison was suckled by his own daughter, an incident celebrated by painters and by poets.

On the occasion of his last visit Caius resigned the mastership to Dr. Legge, on June 27th, 1573, and in anticipation of his death, the day of which he his said to have foretold, he spent his last few days at Cambridge in busying himself about his monument and the place of his burial in the chapel.

On the 2nd, and 3rd, and 4th of July waiting upon the will of God and being stricken with years and disease, he gave orders for the construction of a chambered tomb in which his body should be laid to rest.

He died in his house in London on July 29th, 1573, utterly worn out, at the age of 62. He was buried in great state at Cambridge, monument bears the simple inscription:

> Vivit post funera virtus Fui Caius.

Aetatis suae Lxiij. Obiit xxix Julii, A.D. 1573.

In 1714, during some alterations in the chapel, the grave of Caius was opened. The following account of the appearance of the body given by Mr. Warren of Trinity Hall, quoted by Dr. Venn, may not be out of place here:

This brings to my mind what I saw in Caius College Chapel. I remember when they were repairing and beautifying that chapel the

workmen had broke a hole either by accident or design into Dr. Caius' grave, which was a hollow place lined with brick on the north side of the chapel at a little distance from his monument, which was a mural one. The lid of the coffin was off when I looked in with a candle fixed in a long cleft stick which the workmen furnished me with and with which I could survey the sepulchere very easily. The sides of the coffin were remaining, though in a disjoined and rotten condition. The body seemed to have been a very lusty one, and the coffin was pretty full of it; the flesh was of a yellowish-black colour, and yielded to the least touch of the stick and fell to pieces; the eves were sunk deep into their sockets. . A long grey beard, much like that we see in the picture of him, only this was grown very rough by long time; I think it was then about 145 years from the time of his death. I touched his beard with the stick, and turned it a little on one side; it accordingly lay on one side, having lost all manner of elasticity; I therefore brought it back to its right place again. The sight occasioned in me serious reflections, and I went away with such a regard as I thought due to the memory of so celebrated a man as Dr. Caius had been. (Warren MS. in Trinity Hall; quoted in Camb. Portfolio, p. 175.)

Professor Alexander Macalister, who measured the thigh-bone when the grave was opened in 1891, holds that Caius could not have been more than 5 ft. 1 in. Venn, however, thinks it more likely that his lower limbs were abnormally short, as it is improbable that a man so unpoular among those whom he ruled should not have been reminded of his physical deficiencies by some of those whom he had punished. They freely called him "atheist," "papist," and so forth; "surely a dwarf would have received these epithets in the form of what the grammarians call diminutives of contempt."

On the whole, we get the impression that Cains was a man of stern and somewhat gloomy temper, doubtless aggravated by the treatment which he received at Cambridge. He did not seek to hide his contempt for what he considered that indolence and indifference to learning of most of his juniors. But he was not incapable of friendship. He was learned in all the knowledge of his time, and had travelled and studied much both at home and abroad. He had great reverence for the past, especially those who by their talents or their wealth had contributed to the advancement of his university and college.

His life in London was solitary and somawhat eccentric, as is shown by the following letter from Parkhurst, afterwards Bishops of Norwich, to Conrad Gesner. It is dated May 21st, 1559, a few mouths after Caius's election to the mastership of his new callege:

As soon as I came to London I sought out your friend Caius that I might give him your letter; and as he was from home I delivered it to his maidservant for he has no wife nor ever had one. Not a week passes in which I do not go to his house two or three times. I knock at the door

a girl answers the knock, but without opening the door, peeping through a crevice asks me what I want. I ask in reply where is her master, whether he is ever at home, or means to be. She always denies him to be in the house. He seems to be everywhere and nowhere and is now abroad, so that I do not know what to write about him. I shall certainly tell him something to his face whenever I have the chance to meet him and he shall know what kind of man he has to deal with.

The shifting currents of the times in matters of religion were distasteful to him. This may have helped to sour his character.

To judge from the inventory of the furniture of his house in London, he seems to have lived in surroundings of monastic simplicity. It may be conjectured that, like many men of the largest munificence for public purposes, his private life was extremely frugal. During his residence in London he paid a tribute of respect to his predecessor, Linacre, by having his body removed from an obscure corner of St. Paul's to a more conspicuous place. He had the following inscription placed on the tomb:

Vivit post funera virtus. Thomae Linacro clarissimo medico, Johannes Casus posuit, ann. 1557.

Caius was a voluminous author but of his many compositions several were lost; others exist only in MS., and others again were first published after his death. The following list is given by Dr. Venu:

De Medendi Methodo . . . (Basle, 1544). Galeni libri aliquot Graece . . . (Basle, 1544). Some of these treatises had not previously been printed. and others have the text corrected from his own MSS. Galeni de tuenda valetudine libri sex (Basle, 1549). A Boke of Counseill against the Disease commonly called the Sweate or Sweatyng Sicknesse (London 1552). which is the only one of his medical works containing anything original was reprinted in 1844 and 1847. Opera aliquot et versiones (Louvain, 1556). De Antiquitate Cantabrigiensis Academiac libri duo London, 1668); this was anonymous, the author being simply described as "Londinensis." It was republished in 1574, after his death, with his name, together with his Historia Cantabrigiensis Academiae ab urbe condita; De Pronunciatione Graecae et Latinae linguae cum scriptione nova (London 1574). De Canibus Britannieis, De rariorum animalium et stripium historia. A translation of this under the title Englishe Dogges, by Abraham Fleming, was printed at London in 1576. Fuller says that "when King James I, passed through the college the master thereof presented him a Caius de Antiquitate Cantabrigiae, fairly bound, to whom the King said, What should I do with this book? Give me rather Caius de Canibus." Lastly may be mentioned a book on his own works De Libris Propriis (1570). In this he mentions several other works. For instance juvenile translations of Greek and Latin authors, but these seem mostly to have been lost. The following MS. works are important: 1. The Annales of Caius College; this was printed in 1904. 2. The Annales of the College of the Physicians of London, which are preserved in their library. Of other books some are

lost, like his History of Norwich, which he commenced in early life and never finished.

His writings show that Caius was a linguist, a critic, a naturalist, and an antiquary as well as a physician. In his treatise on the pronunciation of Latin and Greek he speaks of the change which had occurred since his student days, and, like Milton, he advocates the use of the Italian vowel sounds. As for Greek, he wished, like the late Stuart Blackie, to have it pronounced after the modern Greek fashion. His controversy with Thomas Key of Oxford as to the respective antiquity of their universities is amusing from the assurance with which he attributes the foundation of Cambridge to one Cantaber, 394 years before Christ. The Oxford champion had only dared to claim an origin 1,267 years later!

Caius was greater than his works. He knew all that could be learnt in his time from his books. None but a few scholars will ever read them. But his name will live in the fine college with which his love of learning and his desire to promote medical knowledge led him to endow the University of Cambridge.—The British Medical Journal, July 12, 1913.

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WHAT IS SLEEP?

By Aaron Barlow, M.D.

It is said that we cannot fully appreciate the sweetness of life until we have tasted some of its bitterness. Whether this is true or not about life in general, it is undoubtedly true about that particular phase of life which we call sleep. No one can appreciate the sweetness of sleep, no one can fully realize what a blessing sleep is to mankind, until he has been deprived of this most wonderful, most mysterious restorative of life-sleep. The tremendous importance of this subject first dawned upon me when, on one occasion, I was a victim of insomnia. I spent a most miserable night. For four long hours, which seemed like four years, I was courting Morpheus without success. tried all the well known devices in order to lull myself to sleep. Thus, like Robert Southey, in The Doctor; "I' listened to the river and to the ticking of my watch; I thought of all sleepy sounds and of all soporific things-the flow of water, the humming of bees, the motion of a boat, the waving of a field of corn, the opera, Mr. Humdrum's conversations, Mr. Proser's poems Mr. Laxative's speeches, Mr. Lengthy's sermons." but Sleep, sweet sleep would not come. It was still all in vain.

night, only the noise of a passing trolley interrupted the stillness from time to time. As I lay on my bed in torture and misery, I recalled to my mind the thrilling soliloquy of Henry IV:

"O Sleep, O gentle Sleep,
Nature's soft nurse, how have I frighted thee,
That thou no more wilt weigh my eyelids down,
Nor steep my senses in forgetfulness."

One hour out of every three, eight hours out of every twentyfour, three months out of every year, and twenty-three years
out of every three score and ten, or one third of our lives we
speud in sleep. Thus, taken in the aggregate, every one of us
is a Rip Van Winkle. There are men of science who speud
time and effort studying how to prolong life. But "why try
to prolong life if so much of it is to be spent asleep?" is a
question long since asked by the great German philosopher
Immanuel Kant.

What, then, is sleep? This is a question more easily propounded than answered. When we turn to the scientific literature on the subject we find comparatively little definite information, and the most striking thing is that we do not seem to care how much or how little we do not know about the subject. I often wonder why it is that such a mysterious and highly interesting subject as sleep should occupy our attention so little. probably because, as Dr. William H. Thomson in his work Brain and Personality well remarks: "The metree of sleep is lost upon us owing to the unfortunate peculiarity that our ability to wonder is soon abolished by mere repetition. Because the recurrence of sleep is as certain and regular as sunset itself, it .. does not occur to us to wonder at it, or to ask what it all means." Sleep may be defined as the intermediate state between watefulness and death-wakefulness being' regarded as the active state of all animal and intellectual functions, and death their total suspension. Complete sleep is a temporary intellectual death. It is a condition of unconsciousness where all the senses are at rest. Yet, there still remains the question, What causes the actual lapse into unconsciousness.

Let us first see what are the phenomena of eleep, what are the differences between the waking and the sleeping states. When we fall releap the eyelids are lowered over the eyeballs, the pupils contract, and all the voluntary muscles are relaxed, so that the whole body, and especially the face, presents a picture of complete repose. Respiration becomes slower. The pulse slackens. The blood pressure falls, the vessels of the brain contract, and the quantity of blood to the brain is diminished. observations of many investigators have shown that the brain contracts and grows pale while asleep, and, on the contrary, takes on a rosy hue and expands at the moment of awaking. When we sleep the lower half of the body weighs more than the upper The brain is lighter and the legs are heavier. Experiments have shown that if a man goes to sleep on a bed suspended exactly at the middle point of his weight his head begins to tip slowly up and his feet to go down. This is due to the fact that when we sleep the blood in the brain goes off to the other parts of the body. The moment the brain wakes to life again it draws the blood back. All these facts clearly show that there is an intimate, association between sleep and cerebral anemia. action of the sweat glands and the functions of the skin are increased during sleep. This, in part, explains why the atmosphere of our bedrooms becomes impure so rapidly. All the internal organs remain quite active during sleep. The whole peripheral nervous system also preserves during sleep some power of action. This is why, when we wish to sleep we instinctively seek a quiet place sheltered from all external disturbing influences, and we lower our eyelids over our eyes to prevent light falling on the sensitive optic nerve.

we thus see that during sleep nothing is asleep within us except, the brain. But does the whole of the brain sleep? A moment's reflection will convince us that it does not. Let us consider, for instance, the phenomena of dreams. In our dreams we may experience the most varied comotions and passions. Our dreams are as variable as the clouds that drift upon the currents of the air. We dream of great wealth, fame, or success. We

are great actors in great spectacular and romantic dramas. We dream of great ideas, and we accomplish most wonderful things in our dreams. If our dreams were but real, the schievements of the Wright brothers, Shakespeare, or Napoleon, would dwindle into insignificance. Or, again, let us consider such Thenomena as walking or talking during sleep. A man may walk, talk, sing, or solve mathematical problems, and yet at the same time be safely in the land of nod. Dr. William H. Thomson . marrates several interesting cases. One is the case of a college student named Childs, who one night working at a difficult problem in mathematics until a late hour and failing to solve it. put out the light and retired to bed in much vexation. About three o'clock his room-mate was awakened by a light, when he saw' Childs in his night clothes, busy with the problem. He called to Childs to desist from such untimely work, but not receiving any answer, turned over to sleep. The next morning while both were dressing, Childs complained that his night's rest had not refreshed him. "I am not surprised," replied his friend. "when you got up about three o'clock and went at that problem again? Childs answered that he had done nothing of the kind, when, glancing at the table, he was astonished to find the problem all correctly worked out. Cleghorn mentions the case of a man in an exhausted condition who awoke from sleep, took his share of supper with his comrades, sang some songs with them, and went to bed again, without being able to recall any of these events in the morning. How are these things to be explained? Facts of this order clearly show that some parts of the brain remain quite active during sleep. We thus see that even the brain is not wholly asleep, but only some of its elements. What is it, then, that sleeps in the brain? This leads us to the theories of sleep, which we will now briefly review. The principal of these are the vasomotor. the chemical, the histological, the psychological, and the biological.

The vasomotor theory. According to this theory sleep is due to changes in the cerebral circulation. I have already referred

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to the direct proofs of cerebral anemia during sleep furnished by many investigators. Fleming, by deep compression of the carotid arteries, was able to produce prompt sleep. recognized cause of obstinate insomnia is high blood pressure. According to Sajous, sleep is brought about by the sympathetic centre in the posterior pituitary, which governs the function of the thyroadrenal system; the effect is a diminution of the internal secretion of these glands, and thus a lowered metabolic activity, which permits general vasodilatation. The blood accumulates in the splanchnio area and the large trunks, cerebal anemia being one result.

The Chemical theory explains sleep as the result of the accumulation in the organism of fatigue products. These poisonous substances, elaborated during the day as the result of muscular and nerve activity, are narcotic in action. They have a direct action upon the central nervous system, particularly the brain, and when they reach a certain amount, drowsiness, and then sleep, results. During the night these toxic substances are eliminated, and when elimination is nearly complete a slight stimulus suffices to produce awakening.

The histological theory explains sleep by the recession of the dendrites. According to this theory, these nerve cell prolongations, the dendrites, which touch each other, and by means of which nerve currents are transmitted from one cell to another. are supposed to possess certain movements, which, like the pseudopods of an ameba, elongate and retract under various influences. When these dendrites are retracted, so that they no longer come into contract with one another, the nerve currents which are necessary for consciousness are broken, and sleep results. But this theory, a very fascinating one, to be sure, is largely hypothetical, and explains not so much the causes of sleep as its ultimate nervous mechanism.

As for the vasomotor theory, there seems to be no doubt that cerebral anemia is one of the factors in the causation of sleed. We cannot, however, say that this is the only and direct cause of sleep. With reference to the chemical theory, we

must remember that mere boredom, or monotomy, in the absence of all fatigue is sufficient to cause sleep. Then, again, this theory does not explain the power we possess of postponing sleep or of awaking at a fixed hour. Experiments conducted on a number of men and women showed that sixty per cent. of them were able to wake up in the morning at any time they had decided upon the night before. I well remember how. when a boy, my private teacher, who instructed me in matters. of religion, told me of a sure method of awaking in the morning at any hour I might desire. This method consisted in reciting just before going to sleep, the following verse from the Psalms of David: "Awake, thou lute and harp; I myself will awake right early." I was to recite this seven times, at the same time-and this was strongly emphasized-having my attention concentrated upon the hour at which I desired to awake. I remember I practised this method for a number of years, and it almost never failed me. I am sure many of you have had the same experience. You have been able to awake at a certain time, if on going to sleep you resolved, you ordered yourselves, as it were, to awake at such and such an hour. The resolve, seems to wind up something in the subconscious brain, and when the hour has arrived the clock gives in some mysterious way the alarm and the eyelids open. It is also interesting to observe how a mother awakes at the slightest movement of the infant she tenderly loves, although the loudest tempest may not have the effect of arousing her.

The psychological theories. According to Manaceine, sleep, from a psychic standpoint, is the resting time of consciousness. If this be so, then persons in whom consciousness is little developed should sleep more than persons whose "acute realization of the ego" is more pronounced. And when we investigate we find that this holds true. Children, in whom consciousness is feebly developed and becomes, quickly exhausted, need more sleep than adults. Among adults we may olso observe that the less energetic the state of a person's consciousness the more sleep does it require. The uneducated, savages, cretins, idjots,

In old age we again find that as senility approaches there is a more or less predominance of sleep. As we grow old, consciousness grows weaker and is quickly exhausted; hence the need of sleep is the same as with children. On the other hand, old men whose intellectual powers have been well preserved sleep little, and may even suffer from insomnia. This is because the conditions of life in old age are such that the causes of the exhaustion of consciousness are more or less removed, and consequently less rest is required. It is also a well known fact that persons with very marked personality and highly developed consciousness have relatively little need of sleep. Thus we know that Humboldt, Mirabeau, Schiller, Frederic the Great, and Napoleon slept very little. It is said that Thomas Edison, the great inventor, never sleeps more than four hours a day.

The biological theories. Claparede and Sidis, who have elaborated these theories, consider sleep from an evolutionary standpoint. "Sleep," says Claparede, "did not necessarily exist at all times; it is in fact a contingent phenomenon, and is not implied in the conception of life; the lower forms of animal life, microbes and infusoria do not manifest any sleep. If sleep has developed it is probably due to the fact that those animals whose activity was broken by periods of repose or of immobility have been favored in the struggle for existence, for they have been enabled, thanks to the accumulation of energy, during these periods of immobility, to manifest in consequence a more intense activity."

According to this theory sleep is a reaction of defense to protect the organism against fatigue, rather than the result of fatigue. It is on instinct, as much an instinct as sex or hunger. We sleep, not because our norvous system is poisoned or exhausted, but because we cannot help sleeping.

In conclusion, a word about the necessity of sleep. Is sleep necessary? It may sound strange that one should even doubt the necessity of sleep, yet such doubts have actually been raised. Girondeau declared sleep to be a useless, foolish, even hurtful

habit. Thomas Edison declares sleep is only a bad habit the race has acquired, and Kant regarded the bed as the nest of diseases; but experiments have shown that we cannot live without sleep. The want of sleep is even more keenly felt by all animals than the want of food. Without sleep and without hope, says Kant, man would be the most unhappy creature in the world. Perhaps some day someone will discover the secret of how to live without sleep. In these days of wireless telegraphy, aeroplanes, and dictographs everything is possible. Until that day arrives, however, we must, if we wish to live and enjoy life, have the restorative and refreshing effect of sleep, for, in the language of Wordsworth,

"Without Thee what is all the morning's wealth, Dear Mother of fresh thoughts and joyous health?"—The New York Medical Journal, June 28, 1913.

PHILOSOPHY AND MEDICINE.

By M. CARL BECK.

Among the benefactors of the race should be enrolled every legitimate son of Hippocrates, who loving his profession, and vigilantly guarding its sanctity from all that would profane it, so devotes his life that the world feels its beauty through the blessings it diffuses. To preserve and to restore health-in other words, to avert disease, and to remove it in a manner the most prompt, the most safe, the most gentle, the most durable, is the great end of medicine. The means of medicine should include all moral and physical agents, whose positive or negative powers over the functions of the animal economy, are within the reach and subject to the control of human intelligence. A question of deepest import, here presents itself. How is human intelligence to compass such a knowledge of disease, and of agents at our disposal, as to adapt these means so skilfully to the desired end. There is but one satisfactory answer. exact observation, analysis and classification of the phenomena

of animal life in health and in disease, and a like observation, analysis and classification of changes induced in these phenomena when subjected to the modifying powers of the agents.

It needs no seer to inform us that the study of phenomena so complicate, so evanescent, so diversified, must be studied under the guiding light of that philosophy which gives birth to science. He can hope to thread the mazy labyrinth of life's phenomena, who is furnished with that, which the genius of Bacon has disclosed. He, who aspires to triumph, must first bow down and drink deep at the spring of that philosophy which takes its humble source from the elementary axiom—"man understands and reduces to practice, just as much as he has experienced of Nature's Laws move, he can neither know or achieve." Whoever assumes ministering to the delicate machinery of life, should be possessed of this key to the laws of its mysterious movements.

Medicine must attest to the vivifying presence of inductive philosophy. Perusing books in the light of Baconian analysis, do we not grieve over the magisterial pedagogy of the past? But, two centuries after the star of Bacon harbingered the dawn, are we still open to such an imputation?

Before relinquishing our leading topic, a few suggestions should not be overlooked, in elucidating that philosophy without whose aid, medicine is doomed to a life of empiricism and for ever precluded the dignity of science. "History is philosophy teaching by example." The history of man is that a paraphrase of the lessons of philosophy and the history of the individual, a prototype of that. The beginning of intellectual existence is marked by an occupation of the senses with detached phenomena of isolated objects. The rapid succession of novel impressions, the delight of childhood in the ever-changing senses of the panorama afford little opportunity and less inclination for comparison: and only when this delirum of the senses is calmed, only when the charms of simple perceptions no longer enthrall, is juvenile reflection awakened by the innumerable relations of objects about. Then, differences and similarities, antecedents

and sequences, arresting attention furnish aliment to the intellect; and classification, the intuitive resort of reason, commences the work of generalization. Now, new phenomena are observed and new comparisons instituted, new relations are discovered and new classifications established, until the structure of science in all its imposing grandeur stands revealed to the philosopher.

From this rapid sketch of intellectual development may be drawn the practical lesson, that he who would interrogate Nature and rightly interpret her, with the positive integrity of purpose, must observe, compare and classify. He, who follows whatever Truth may lead, must forego the vain-glorious distinction of scholasting hypotheses, for the unassuming aims of a pure philosophy—the patient investigation of phenomena in their mainfold relations, and the enunciation of these, in comprehensive formulae or general laws.

Lord Bacon compares the philosophy of nature to "a vast pyramid which ought to have the history of nature for the basis," and those who would construct it of abstract speculations to the giants of old who would have scaled the heavens by piling Ossa upon Pelion and Olympus upon Ossa. "Gratuitous theories," says a commentator of Bacon, may impose on the imagination, like the mirage of the Egyptian sands; but like this illusion they must pass away. So must vanish all systems of philosophy and science that are not founded on the solid basis of that Induction of the Novum Organum.

In what consists the process of generalization, but in classifying particulars under a compendious expression? What is a philosophical theory divested of all hypothesis, but a concise enunciation of the facts on which it rests? And what is that which we entitle a law of Nature? Is it an abstract sovereign rule of Divine authority; or, is it a synthetical epitome of Nature's operations such as human assiduity has discovered, and human ingenuity has classified and human phraseology has announced? Men were accustomed to view a comfortable hypothesis as a law of nature, as an original principle established by

the first of Omnipotence; and he who had the hardihood to examine its validity was charged with profaning the order of Nature. For crimes like this Roger Bacon in the thirteenth century was excommunicated by the Pope and imprisoned for ten years. The more recent examples—the denunciation of Harvey, Jenner and Pasteur. On the one hand it is maintained, that the true elements of the philosophy of nature are identically those of the History of Nature, distinguished simply by scientific arrangement; on the other, it must be conceded, that the facts of nature and not theories of man, are the only infallible tests of verity. To contradict past experience, is an indubitable mark of fallacy; to go beyond it, is the very essence of genuine discovery.

The second great claim on medicine is almost too obvious to require explicit statement. It is that, under the light and guidence of philosophy, we minutely investigate the phenomena of life, psychological and corporeal, as manifested in health and in disease, and as modified by the moral and physical agents under control. In other words, an imperative claim of an application of the principles of inductive philosophy to the study of the laws of life in its most comprehensive significance. The legitimacy of this claim is not to be questioned.

Man is a unit;—Whatever the allegations as to the soul it is not to be contested that, when united they are subject to one harmonious code of laws governing alike the psychological, physiological and pathological in every condition in which life is exhibited. Has not medicine, hitherto, misapprehended the magnitude of its mission with which it has been entrusted? Instead of embracing in its exalted aims the laws of the whole man, it has been insensible to its high prerogative. Surrendering to others the study of his nobler nature, medicine has contended itself with his physical, as if forgetful to "administer to a mind diseased." And what have been the consequences of his severance of phenomena which nature has indissolubly, united? The unavoidable consequences of false induction. On the one hand, the investigations of the physiologist shut from

the light which psychological phenomena had shed around him. frequently generated the dismal forms of Materialism; on the other, those of the psychologist, similarly unilluminated, have been as prolific of the wildest dreams of Idealism; man has been arrayed against man with fanatical virulence of futile controversy, the claims of inductive philosophy had been forgotten and the laws of life's phenomena unrevealed. Why has medicine been in the toils of darkness but westerday? answer-Inductive Philosophy was a thing foreign. What was the reasoning of Newton? When in the fleeting hues of the "bow of promise" he read the laws of vision, or, when spanned the heavens and traced through limitless space the predestined march of a universe, had he invoked the mysterious. essence of gravitation to wing him for his empyrean flight? Was the essence of the electric spark determined, when the genius of our Fruklin disarmed the bolt of heaven? Or the essence of the magnet discovered before commerce could explore oceans and found empires? Experimental philosophy, aware that means and forms, archetypes and essences, phantasmata and substrata, are inherent prerogatives of Aristotelian visisonaries, devoted herself exclusively to the study of phenomena and the laws which they obey; and but for the neglect in medicine in the past, of this obvious truth, the laws of life's phenomena had long been established.

That the universe abounds in mysteries exciting only the wonder of the desponding observer, stimulates the philosophical inquirer to untiring research. Aware that the investigation of the laws regulating the functions of the animal economy ushers him into the very presence of nature's arena, he feels that if consecrated to the worship of Truth, he be found worthy to lift the veil, the revelations of a moment may assume an importance to be estimated only by the great interests of humanity which they involve. Until the dawning of that philosophy whose light alone penetrates the recesses of 'nature, medicine simply proferred the uncertain aid of visionary speculation and unreasoning experience. But now, when the hallowed rights of in-

ductive philosophy have been asserted, medicine is established upon a true basis, the immutable laws of life. This investigation, therefore, momentous as it is to all, has claims on the medical practitioner of paramount import. Engaged in profession of fearful responsibilities, deriving its first principles from the phenomena of life, and depending on a knowledge of their laws for the only scientific exercise of its arduous duties. the physician cannot but feel, that, if in the temple of Nature, there be a shrine appropriately decided, it must be to Aesculapius.

Here we are introduced to the third and last claim of exaction upon medicine. Perfect health of the animal economy, implies perfect conformity with the have under which its forces. in harmonious activity, promptly, respond to every exigency of its nature. Disease is a condition in which, through lesion of sensation, of motion, or of structure, the equilibrium of the vital forces is disturbed—a condion wherein we appreciate the importance of the "mens saua in corpore sano" of Horace. for the exigencies of a nature illimitable in its aspirations, boundless in its prospects. The complete development of both the psychological and corporeal forces maintained in harmony with the laws of life, constitutes the beau-ideal of health, the ultimate of medical science Medical men, who in their proper vocation, are but ministers of Nature, recognize her supremacy in every school having claims to Inductive Philosophy. It is truth admitted, that in every case of disease, the legitimate aim of medication is to aid-either by obviating difficulties or by re-inforcing its sanitary efforts. In the presence of disease, therefore, the philosophical physician rejects all false hypotheses and rests solely on demonstrable facts. Confining his attention to phenomena and their inductive classification, as the only legitimate work of medical philosophy, he discerns in these thus classified, the characteristic features of the individual case, that certain functions or forces of the living economy are specially invaded, requiring aid of medicinal agents. With a mind thus singly devoted, to his purpose, his attention is directed to the offending cause which excited the disturbance. He turns cofidingly to the Laws of Life—the formula under which vital phenomena, in their diversified relations, are scientifically disposed—as the only competent authority for the solution of the problem. If, among these laws he finds recorded,—Contraria contrariis corroborantum—obedient to its mandate, he selects, as a means of invigorating their reaction, an agent specifically adverse to the yielding functions or forces. In otherwords, he prescribes the medicine which, acting pathogenetically upon an organism in health, affects in a similar manner the special functions or forces suffering under the attack. That is to say, he administers on an agent which, producing in the healthy organism morbid phenomena similar to those manifest in the patient, is chosen in conformity with the well-known principle—"Simila similibus curantur."

The energy of the agent thus selected, primarily active upon functions yielding to invasion, and hence less able to resist it, may so much the more readily transcend "the limits beyond which the vital forces necessarily succumb." Inasmuch as every agent is an agent—"within conservative limits, uniformly invigorating, and beyond these limits as uniformly enteebling every function or force of animal life," in its sphere of activity; and as the sole object of a medicinal agent is to invigorate, it follows, that only within these limits should the powers of such agent be exhibited.

When pursuing our inductive analysis, adducing illustrations in support of the general law of life which we had advanced, had we adhered closely to our principles, we had included in our field of induction the phenomena of life, and only as manifested in health but also as in disease and as modified by the moral and physical agents subject to our control. Such is the philosophy of Hahnemann. Homospathy, therefore, needs apologetic tolerance or favor from no one, but simply that justice which ever distinguished the philosophical from the sciolist. Habneman saw the fundamental doctrine of medicine, at the necessary consequences of a universal law of animal life and

has proven its intimate relations with all sciences. Homosopathy does not pretend to amputate a limb or reduce a dislocation: But, passing all such cases not within the scope of its ministry, it confines strictly to its legitimated province, treatment of medical cases. As a medical science it views disease as consequent disturbed vital action. It employs agents whose dynamical activity is directed upon the vital forces thus disturbed ;-and because disturbed, morbidly susceptible to the influence of homogenous or similar irritants, beyond all human appreciation. Homeopathy came into existence not to supplant. not to subvert, anything previously established; but to supply a want-to complete the arch of scientific medicine. Homeopathy, therefore, is not a new system of medicine. Homeopathy is a compendious term, of a successful generalization of the curative powers of a materia medica, and that under one comprehensive principle given birth to by inductive philosophy -" Similia similibus curantur."

In order to secure the aim of our discourse more firmly, let us briefly recapitulate. The writer has advanced three great claims to medicine. The first of these exactions—that none he admitted to a ministry professing to control the mysterious phenomena of life, unless deeply imbued with the spirit of that philosophy whose fundamental principle asserts that "Man understands, and reduces to practice just so much as he has experienced of Nature's Laws; more, he can neither know or achieve." It has been maintained that this claim, involving the integrity, patience, courage, in a word, the moral virtues of a mind which worships at no other shrine, but that of Truth. -is extreme.

Under the second general division of our subject, it has been urged that an imperative demand be made for a rigorous application of the principles of Inductive Philosophy to the study of the laws of life. That a truly Baconian spirit, regardless of all, save ascertained phenomena inductively classified, cannot fail, in a field where the very basis of philosophical medicine must be gought, to reap fruits more grateful, more abundant, and more lasting, than have been produced by all the speculations which, from time immemorial, have dazzled the world. Anxiously cherishing this spirit, and founding our inquiries upon a fact universal in the animal world, a fact pointing to a remarkable relation of vital phenomena, wherever life is exhibited; we have traced this relation through exhibitions physical, intellectual, and moral, in health and in disease until we have been led to a conviction that the most extended philosophical induction establishes the principle, "Contraria contrariis corroborantum"—as a universal law of animal life. In other words, throughout the animal kingdom observation proves that, agents specifically adverse to certain functions or forces, within conservative limits, corroborate the reactive energy of these forces.

Our third general division, enjoins medical men, in the allministration of their art, a steadfast adherence to laws of life established by rigid Induction, as the only revelation of Nature's decalogue of which man may avail himself for the preservation of health and removal of disease. Disease, always invading special functions or forces and to be removed only by their reactive energy, is necessarily ameliorated by whatever corroborates this reaction, we arrive at the conclusion, that, agents specifically adverse to functions or forces yielding under invasion. exhibited within conservative limits, are natural means of Consequently, we avowed that the keystone removing disease. of the arch of medical sciences-Homeopathy-being the successful generalization of the curative powers of a materia medica, under one comprehensive principle given birth to by Inductive Philosophy.—The North American Journal of Homeopathy, April, 1913.

REVIEW.

Medical Union Number Six. By William Harvey King, Author of "My Smoking Room Companion." 60 Pages, Cloth. Philadelphia. Boericke and Tafel. 1913, 50 cents.

It is a pleasant reading from beginning to end. It exposes the hard-heartedness or rather the heartlessness of the present-day medical men, who are forming into union. It describes cleverly how the specialists do act without minding anything but their own pocket. We cannot help quoting a few passasges from this little book which will show how things are growing on gradually. Here is a specimen of instruction on a special subject given by the "Riding delegate" to the "New doctor," who wants to be a member of the union.

means chest only. Above, your territory goes to the lower border of the larynx, or if you do not happen to know just where that is, say the collar-bone. Below, it goes to the diaphragm, or if the location of that organ is a little obscure in your mind, just remember to the end of the breast-bone. This includes both front and back, but be careful you do not go either above or below these boundaries."

"The largnx is often involved in chest diseases," said I (new doctor).

"Certainly," replied Dr. O'Brien (riding delegate). "In that case the throat-man goes also. You see, formerly, before the days of unions, one doctor attended both the throat and chest and received no extra pay either. Now the patient has to pay for two doctors. It also happens occasionally that a cough upsets the stomach. In that event the stomach doctor visits the case with you, all three getting fees at the same time. The advantages of unionism are very apparent, are they not?"

The only recommendation of a doctor is that he be thoroughly a sequented with the rules of the union, never mind whether

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he has or has not any knowledge in medicine or surgery. And the author gives a vivid picture of this:—

- "I think I understand my duties so far as the union is concerned," I replied, "but I fear I am lamentably weak as to my medical knowledge."
- "Were you not conched at the central office before coming up here?" asked the riding delegate.
- "Yes," said I, "but a man who has been out of the world for thirty years cannot absorb everything in an hour."
- "That matters not so much," said Dr. Tobias. "If you do not know what is the matter, or what remedy should be given, administer a dose of morphine, enough to keep the patient quiet until you go off duty. You make the call and get the fee, that is the important part. Do not become too ambitious to cure your patients. Let the man who follows you have an opportunity to collect his fee. If you cure patients too quickly, you will make yourself very unpopular with your brothers in the union."

Here is a good example of practice of these medical union specialists.

"" A call for chest medical and chest surgical," said the clerk.

Thankful indeed was I that my first call should be of such a nature as to necessitate the presence of another physician, for I did not really know how to take a case, let alone doctor it. On our arrival we found more than the telephone message had led us to expect. The man had been run over, as stated, and he also had a severe pain in the side of the chest which was evidently due to a broken rib, the broken end sticking into the pleura. Of far more threatening consequence, however, was a crushed leg which was beyond the power of surgery to save and required amputation at once. The chest surgeou, of course, could not do this. As considerable blood was oozing from the mangled limb, I suggested that we tighten the bandage which some one had put around the groin to stop the haemor-rhage.

- "No, no," said the chest surgeon, "we will telephone for the extremity surgeon. We have no right to touch that part."
- "" But that may be necessary to save the man's life," I suggested.
- "Perhaps," said the chest surgeon, "but if tightening the bandage is the only thing that will save his life, so much the worse for the man, as we cannot do it. Every new man who comes into the union, especially if he be an old practitioner, gets into trouble by interfering with things that do not belong to him. I will set the broken rib, you prescribe an opiate, and by that time the extremity surgeon will be here ready to amputate the limb."

It was five o'clock before the extremity surgeon was ready to begin work. Just as the patient was being put under the anæsthetic the surgeon glanced at his watch.

- "I will not have time to finish the amputation and dress the wound," said he, "so telephone to the office and ask the extremity surgeon of Tour One to come here."
- "Cannot a surgeon finish an operation he has begun?" I asked the chest surgeon. "It seems to me he should not leave when he has once started in with it, even though his time limit is passed. I should think it might be dangerous to turn over a partly finished operation to another."
- ""I see you have much to learn about our union," said my companion. "To work overtime is breaking an important rule."

Before finishing we must quote another passage which will show how hard-hearted these men must be in order that they may not lose their appointment. A doctor was sent for for a case of chest complaint and he has the following conversation with the mother of the child.

"" Oh, doctor," she exchaimed, "why have you been so long coming? I telephoned for you, more than an hour ago."

I informed Mrs. Strong that I had been away from the office for some time and had consequently not received her message.

and that I had simply called on my way back, as I had intended doing when I last saw the child.

"Come quick to the room," she exclaimed. "I fear Georgie is dying."

Even by this time I had learned that it was not a union principle to hurry, so, therefore, I took it rather leisurely. Before I entered the room, however, I discovered that I could be of no assistance, as the sound of the hoarse, harsh cough which emanated from it, plainly told me that my little patient was enfering from an attack of croup, a disease distinctly located in the laryux, and, therefore, entirely out of my region of treatment.

"Oh, doctor, hurry, please," cried the mother. "It does not seem that Georgie can get his breath five minutes longer."

"Madam, I am very sorry," said I, "but you should know that I cannot treat a case of croup. That is not a chest disease, but is located in the laryux. You must send for the throat doctor."

"But, doctor," she exclaimed, "you will not stand by and see my child die? Have you no medicine you can give him?"

"Yes, madam," I replied, "I have medicine in plenty, but to treat the case is strictly against the rules of the union. You must try and get the throat doctor."

"You wouldn't be so cruel as to let my Georgie die without trying to save him, would you?"

"I am very sorry, as I told you," said I, "but I can do nothing."

Putting her hands pleadingly toward me, she cried out, "For God's sake, doctor, do something to save my boy. Have you children? Do you know what it is to have a dear little fellow nestle up to you in love and confidence? Do you know what it is to have the sweet kiss of pure love from a child you have given life to? Did you ever have a child suffering or frightened give you an appealing look for relief and for protection? Did you ever feel your paternal heartstrings torn by

the agency and suffering of one dearer to you than life itself? Look at my boy, my darling Georgie, as he is suffering, struggling for life. Doesn't the sight pierce your heart? Doesn't it bring up to you what might happen in your family, and doesn't it stir the humanity within you enough to move you to take the consequences, to try and save him?"

" Madam, I am not a family man."

'As I said this I glanced at her. The shock nearly prostrated her. But she quickly recovered, and, with still more pleading in her voice, cried:

"But you must have had a mother, even though you have had no children. Do you not remember nestling in that mother's arms? Do you not remember the many sweet caresses she gave you? Can you not recall how you clung to her when you were sick? And can you not now see her loving face as she bent over you, sympathized with you and caressed you? Oh, man, turn your head Heavenward, and see if you cannot behold her angel face looking down upon you to-night, and in that look urging you to soften your heart, to do your duty to your fellow creature. See if there is not a pleading in her countenance, the pleading of a mother, 'My son, be a man.'"

'Union principles were in danger of giving way in my mind. Iron-bound rules were losing their grip on me. Involuntarily I put my hands to my head as if to support my reason. My frame shook under the strain that was upon me. The mother's trembling hands came nearer to me, and her pleading looks pierced me like daggers. A saving, desperate thought came to me.

"I'will get permission from the riding delegate," said I, and that I might escape that look as soon as possible I rushed downstairs to the telephone and called up the office. The clerk answered.

"There is a child here dying of croup," I said. "Can the throat man come at once?"

"The throat man is here," replied the clerk, "but it is now! "fifteen minutes of six, his leaving time, and it would be after

that hour before he could get to the case, so he could not prescribe if he was there. I will send the throat man of Tour One as soon as he comes in."

"But," said I, "the child will die before that time. Will not the riding delegate give me permission to prescribe for the patient?"

"The riding delegate is not in," replied the clerk, "and he certainly would not give you permission if he were. See here, Schneider," he continued, "you are in danger. Like all new men who haven't become thoroughly imbued with the principles of the union, you let your kindness of heart outweigh your own interests and all our interests. You say the child will die. That is probably true, and you are very much excited about it. But that is no business of yours. Think of our union and what it means to you. I give you this advice as I know you are a new man, and I understand your danger. After you have been in the union a few months more, such things will not bother you."

"But it seems cruel," said I, " to let that child die with the agonized mother pleading for help."

"What is one child," said the clerk, "compared to the principles of our union? Why, man, just think for a moment of the thousands and thousands of children who have died of starvation in agonized mothers' arms for the principles of unionism in this country. I say to you again, be strong, and think of the consequences to yourself. Just recall Dr. Butterworth and his fate. It will help you in your resolution."

"I will not be caught in any such trap. I will be strong, as the clerk has advised me to be. Conscience and kind-heartedness were good things to have when I first began practice. They were good for business then, but now they have no place in a union."

"If your child'should live thirty minutes longer," I said to Mrs. Strong, "the throat doctor of Tour One will be here to see him."

"There is no hope for my darling boy, then," she cried, throwing herself sobbing accross the bed on which the dying child lay.

'I looked at the little fellow for a moment. "Your are right," I said, "he will not last ten minutes longer."'

Professional or lay, every one should get hold of a copy of this little book and read it through and through. He will then be able to know how things are going on from bad to worse every day for the sake of so-called advancement of civilization. Dr. William Harvey King has done a yeoman's service by holding his pen so boldly against the tide of the time.

EDITOR'S NOTES.

The Fumes of the Match.

The consumption of matches has now reached amazing proportions, which may be attributed fargely to the smoking habit. A few years ago something like 18 million gross of boxes were consumed per annum, 63 per cent. of which were the "strike-anywhere" match and 37 per cent. the safety match. About 12 years ago the percentage of safety matches consumed was only 18 per cent., the consump-. tion of the "strike-anywhere" match being 82 per cent. More recently the safety match is being shown to overtake the "strikeanywhere" match with advantages, we think, to the public. modern match is a great advance on the match of a decade or so ago. Yellow phosphorus has been banished from its composition-a fact which has conferred benefits not only on the operatives engaged in the manufacture of matches but on the consumer also. The combustion of phosphorus in the air of course adds to it an undesirable constituent. The modern "strike-anywhere" match contains phosphorus in the form of a sesquisulphide, which does no harm to the factory hand but which, all the same, gives off irritating and poisonous fumes when struck-namely, the oxides of phosphorus The safety match frequently gives off sulphur dioxide in irritating quantity, but no phosphorus. The phosphorus in this case is on the rubber on the box in the shape of red amorphous phosphorus, which is not poisonous, and as little of it actually burns on the friction of the match very little oxide of phosphorus is formed. Some of the matches contain the poisonous lead oxide or chromates as oxidisers, while in others potassium chlorate and manganese dioxide are employed for the same purpose. In spite of the enormous number of matches used the fumes they give off on combustion cannot be considered a serious source of mischief. But these fumes do unquestionably pollute the air, more especially when they are used frequently, as in a railway carriage or smoking saloon, We may be thankful, however, that both the old yellow, or "live," phosphorus match and the sulphur-tipped lucifer are extinct, inasmuch as their effect in vitiating the air was appreciable.—The Lancet, July 12, 1913.

Cocaine Habit in India.

The Bembay Excise report, which has just been issued by the Bombay Government, contains several items of interest to the whole country, as well as to the Bombay Presidency. The sections dealing with the illicit imports of cocaine and the efforts being made to check these imports have a very general interest; while the question, which is fully discussed, as to whether it is more desirable that licences to retail vendors of Excise liquors should be disposed of by auction or on the fixed fee principle is of great importance to Excise authorities all over India.—The Lancet, July 19, 1913.

Arsenical Neuritis.

E. Lindström (Wien. klin Woch., May 1st, 1913) gives an account of his own sufferings from neuritis, which was ultimately traced to *arsenic present in large quantities in the wall paint. He moved with his son, aged 11 years, into a newly painted house early in January, 1911. In April he began to suffer from severe neuralgia in the right nervous axillaris and sacralis. The pain ceased as soon as he rested completely, recurred when he got up, and was aggravated by any movement. It was less troublesome in the summer, but in the middle of December it again caused much discomfort, and extended also to the right radial nerve. He found washing his hands very painful, and in January, 1912, he could scarcely do anything with his right hand. The area over the triceps was swollen and tender, and was suggestive of early phlegmon. From this point the pain radiated to the back of the forearm and hand, and to the shoulder, back and neck. Muscular rigidity prevented his walking upright, and the pain, which was at first stabbing, became later dull and numb. Aspirin and quinine gave no relief. In the autumn and winter of 1911 his son developed conjunctivitis, although he suffered from no errors of refraction, and had previously been healthy. As the conjunctivitis persisted in spite of treatment, arsenic was suspected and found in large quantities in the urine of both father and son. The Dutch zincwhite with which the patients' bedroom had been painted contained 2.8 mg. of arsenic in every 200 c.cm., and the air of the room leading to the bedroom contained 0.02 to 0.06 mg. of arsenic in every 25,000 litres. The author now took hot-air baths and a course of cold-water treatment, but without much improvement In the spring and summer of 1912 brown pigmented areas appeared on the back of the right hand for a short time. There was considerable improvement in June, when he began to operate again, but after three days' work the numb sensation, and then the pain, recurred, and necessitated a three to four weeks' rest. Operating in September again caused a relapse, which required a few days' rest in bed and partial abstinence fram work for several weeks. The author was more than usually right-handed, as his left hand had been tuberculous in childhood. The extra work thrown on the right hand and arm is therefore probably responsible for the distribution of the neuritis, which was so violent in this case that nerve stretching, and even amputation of the arm, were contemplated.—The British Medical Journal, July 26, 1913

Railway fares to Health Resorts.

It may be presumed that certain of our great railways have abolished second-class carriages as a matter of convenience and economy in traffic working, although undoubtedly a very large section of the public showed an appreciation of the intermediate class because it offered increased comfort and accommodation at a reasonable extra charge over third-class fare. There is now no option of paying a little more in order to secure something a shade better than third class, for the rule appears to be to charge for a first-class ticket approximately double the sum charged for a third-class. logic of fixing such a wide difference between first and third price is open to question. The time is opportune for drawing attention to this point in view of the approach of the holidays, and also of the great effort which are being made to convince the public that our home health resorts offer attraction of both a social and medical kinds which are not less favourable than those that are offered abroad. In the case of health resorts or watering places which happen to be hundreds of miles away from the starting point the difference between first-and third class fare is a very serious one; in many instances it amounts to several pounds. It is a common occurrence that while the third-class carriages are perhaps uncomfortably full on a long-distance train there is often room to spare in the first-class compartments Surely it would be better to have the first-class compartments occupied rather than empty, even though such a result be gained by a reduction of the first-class fare. There are quite a number of people we are certain who would gladly pay, say, half as nrack again on the third-class rates for the convenience of travelling more comfortably, though they now regard the double price as out of all proportion to the extra comfort provided and as a severe tax on their purse for the privilege. In not a few instances the traveller is an invalid seeking health and recuperation at a place of treatment, while it is obvious that the invalid is not always a rich person. We suggest that the subject is well worth the consideration of our railway managers. We quite understand that a railway is a business undertaking and the public are not entitled to expect philanthropy at the hands of the directors and shareholders, but the concession we appeal for seems to us to promise advantages both to the railway management and to its great patrons the public. It would also be a further means of inducing the public to resort to our home health stations in preference to those abroad, where the supplemental fares for increased comforts do not show the very wide differences which we have pointed out.—The Lancet, August 2, 1913.

Salvarsan and Neosalvarsan.

The difficulty of apprasing the value of a new remedy is proverbial. The early reports are always too optimistic; they exaggerate advantages and minimise or overlook dangers. Even the scientific eminence of the discoverer of the remedy provides no exception to this law. What position will ultimately be occupied by salvarsan or neosalvarsan in the treatment of syphilis cannot yet be stated. That the treatment is attended by some danger of acute arsenical poisoning has been apparently proved. In certain subjects, who may be young and strong, the administration, with all due precautions, of an ordinary dose, more usually of a second dose, has been followed by coma, convulsions, and death, and at the necropsy hemorrhagic encephalitis has been found. It may be admitted that such cases are very infrequent, but of their existence there can be no doubt. One has been recently recorded in the Australasian Medical Gazette of June 14th. A youth, aged 19 years, was given at the Adelaide Hospital an intravenous injection of 0 6 grm. of salvarsan soon after the appearance of a hard chancre and before any secondary manifestations. There was a slight reaction, and about two weeks later the injection was repeated. Again there was a slight reaction, and he was retained over night and allowed to return home next morning. About 48 hours after the second injection he complained of a feeling of illness, epigastric pain, and sensitiveness to noises. He was flushed and sweating, and the

temperature was 101° F: The knee-jerks was slightly exaggerated. About eight hours later he became irrational and very frightened. There were frequent rigors. He gradually passed into a state of stupor and next morning would not answer questions. Babinski's sign was present. Towards evening he began to have fits, which recurred at varying intervals during the night; altogether there were 18 in the next 24 hours. He vomited four or five times. seen in two convulsions, of which one was general, the other definitely left-sided. He became comatose, and died 96 hours after the injection. A necoropsy was not allowed. That the fatal result was not due to the method of administration or to any peculiarity in the syphilitic infection is shown by the fact that three other men were infected by the same woman on the same night. Of these one was given two injections of salvarsan and the other two were not. None of them manifested any untoward symptoms. The patient was apparently an ideal subject for salvarsan treatment. Idiosyncrasy tothe drug is the only explanation which can be given of such cases. Unfortunately there is no means of determining its existence before administration. Dr. Fleming asks the question, Are the benefits to be derived from salvarsan sufficient to justify the risk of death (small as it is) in patients who would almost certainly not have died under mercurial treatment? In the same number of the journal Dr. A Verge quotes the opinion of Wechselmann and others that neosalvarsan is more toxic and less efficacious than salvarsan, and states that his own experience and that of Dr. E. H. Molesworth at the Royal Prince Alfred Hospital have not been happy. While they had no untoward symptoms with salvarsan in some hundreds of cases they had two cases of acute exfoliative dermatitis (obviously from arsenical poisoning), and one death in a young man of 20, obviously in every way a suitable subject for neosalvarsan. They found, that neosalvarsan was not nearly so active as salvarsan in removing the secondary eruption. - The Lancet, August 2, 1913.

Safety Pin Removed from Larynx of Child by Direct Laryngescopy.

Many McD., aged two and one half years, was seen by Dr. L. T. Quinn, of Elizabeth N. J., on February 22, 1913; at which time, she was hourse and had a croupy cough, and examination of the Shest revealed some brouchial rales. Examinations of the throat addings were negative. The temperature was 99° F. and pulse 90.

The diagnosis of bronchial croup was made upon the evidence found. The administration of syrup of ipecac and a laxative relieved the condition.

Five days later he was called again, as the child had become suddenly worse, and he found marked dyspnea, a dry croupy cough, and a temperature of 99° F. Again the examination of the nose and pharynx was negative. He called in consultation Dr. J. S. Greene, who made the diagnosis of membranous laryngitis, and as the obstruction to breathing had increased, an O'Dwyer intubation tube was inserted, which gave prompt relief to the obstructive symptoms but which was coughed up on the second day; 3,000 units of diphtheria antitoxine were also injected, although a culture from the pharynx proved negative. The condition of the patient improved in every respect except the hoarseness, which remained.

On March 18th, while Doetor Quinn was out of town, the consultant, Dr. Greene, was called in to see the child with another similar attack, and she again responded to the administration of syrup of ipecac. On March 30th, the hoarseness still persisting, it was deemed advisable to have the advice of a laryngologist to ascertain, if possible, the occasion for its continuance. Dr. Norton L. Wilson was called in consultation, and by means of the laryngoscopic mirror thought he determined the presence of a growth in the larynx, and concluded from the history that it must be a papilloma. He advised, however, that the child be examined by the direct method, and sent her to me for this purpose.

On March 31st, thirty-seven days after the child had first been seen by Doctor Quinn, an examination was made with the Jacksen larvngeal spatula, at the Manhattan Eye, Ear, and Throat Hospital. under the administration of chloroform anesthesia. Preparations had been made for the removal of the papillomata, if present, and for the introduction of a tracheal tube, provided they were of a multiple character. Considerable mucus filled the larynx, and the breathing was of an obstructive character, which necessitated rapid work to obviate performing a preliminary tracheotomy. After the mucus had been sponged from the larynx, a bright object was seen protruding from between the vocal cords. With a pair of ordinary straight laryngeal forceps its was grasped and extracted, without difficulty and without hemorrhage. The patient's breathing immediately became less labored, and the cyanosis improved. On the following day the patient was sufficiently well to be taken to her home in Elizabeth, N. J., where she made an uneventful recovery.

For several weeks the voice remained somewhat hoarse, but in a subsequent report from Doctor Quina he stated that the child's voice had returned to normal and there was no sequence to her unique experience.

The important facts in this case are, the liability of physicians. unsuspecting the presence of a foreign body, to diagnosticate the case in accordance with the symptoms presented, without utilizing the X-ray as an infallible method of determining its presence; secondly. that an intubation tube could occupy the larynx at the same time with the safety pin without giving evidence to the operator of its presence, and that the tube could be coughed up and the pin remain in situ; thirdly, that the absence of microscopical evidence of the Klebs Loeffler bacillus in the examination of a specimen from the pharynx should direct the attention of the physician in charge to something else as a causative factor, although in many instances diphtheria can exist where the superficial culture will not reveal the presence of the infection; fourthly, that the examination of a child's larynx by the laryngoscopic mirror, although performed by an expert, is inadequate, owing to the struggles of the child, the smallness of the larynx, and the presence of mucus which cannot be removed and which obscures the character of the body or growth.—The New York Medical Journal, August 16, 1913.

Salvarsan Poisoning and Arsenic Susceptibility.

K. Brandenberg presents a typical clinical picture of death by salvarsan as follows: During the first days after the injection the symptoms are not as pronounced. Headache, elevation of temperature, gastrointestinal disturbance, moderate, flighty nervous irritation, paralytic developments, as double vision, an arrythmic heart; later, restlessness, changed demeanor, slight visionary difficulties. third or fourth day a state of sudden collapse supervenes: deep coma, very severe epileptiform cramps, and a peculiar edema about the eves and lips. It is mostly the young and healthy that are attacked. The autopsy in sudden death from this remedy gives scant satisfaction. The brain shows edema and hyperemia, with or without capillary bleeding, fresh parenchymatous inflammation of internal. organs, as of liver and kidney, at times hemorrhages of the intestinal mucous membrans. According to the author's opinion this is none other than a picture of arsenical poisoning. These results show, emphatically, a general or local idiosyncrasy to arsenical poisoning.-New York Medical Journal, August 23, 1913.

Evils of Betel Chewing.

The evils of chewing betel-nut are illustrated in the report of the south Travancore Medical Mission for 1912, which states that of 330 major operations no less than 78 were cases of cancer due largely to betel-nut chewing.—The Lancet, July 19, 1913.

Dr. Nugent.

Edmund Burke married the daughter of a Dr. Nugent, a physician at Bath. Nugent eventually took, up his residence with his son-in-law in London, and became a popular member of that famous group of men of letters and artists whom Boswell has made familiar to all later generations. A member of that society was an eminent attorney called Hickey, whose uame is commemorated in Gold-amith's poem, Retaliation, in the lines beginning:

Here Hickey reclines, a most blunt pleasant creature, And slander itself must allow him good nature; He cherished his friend and he relished a bumper—

and so forth. He had a graceless son named William, whose memoirs (1749-75), edited by Alfred Spencer, have recently been published by Messrs. Hurt and Blackett. He says that Nugent was an intimate friend of his family, every member of which looked upon him with gratitude as having saved his father's life. As the method of treatment was a somewhat curious one, it may not be out of place to quote it. A few years after his marriage the elder Hickey became seriously indisposed, lost his spirits and his appetite, becoming steadily weaker and weaker:

The medical gentlemen, long at a loss to give a name to his disorder, after drenching him in vain with physic pronounced him to be in a deep decline. He was therefore put upon a vegetable diet, forbid the use of wine and strong liquors, and according to the then and still prevailing system, when the London doctors know not what to do, was, as a forlorn hope, ordered to Bristol. To the hot wells he accordingly went, where he was gradually and fast sinking to the grave, when fortunately for him Dr. Nugent arrived. They had been at Dublin College together, and there formed a friendship of the warmest nature. This was their first meeting since leaving the university. The doctor expressed great concern at seeing his fellow collegian in so reduced a state. He inquired into the particulars of his case and the manner in which the medical man had treated him. After having satisfied himself on these points, he said, "Well, Joe, we must now try what can be done for you here,

and I by no means consider your case a desperate one. I shall come and dine with you, when we will talk further upon the subject, so order a nice small sirloin of beef to be roasted, and, I sarcely need add, a bottle of good claret." The order being obeved and dinner served, the friends sat down, my father having his miserable basin of gruel placed before him, of which, however, he scarcely swallowed a spoonful. Dr. Nugent helped himself liberally to the roast beef, which he pronounced excellent, and admirably dressed. After eating some time he asked my father whether the smell of the victuals oppressed or was disagreeable to him, to which he answered, "By no means; quite the reverse, the savour of the meat is pleasant to me." "Why, then," continued the Doctor. "perhaps vou'd like to have a slice" My father, who concluded he was not serious, replied, "That is not fair, Doctor, to tantalize me when I am sure I could eat a pound of it." "Say you so. Joe." said the Doctor, "then by Jove you shall have a good slice, though not a pound," and he immediately cut him a tolerable sized bit. My father, in utter astonishment, could hardly believe his sight or hearing, he, however, devoured the beef with infinite glee. "And now," said the Doctor, "probably you would like to wash down the meat with a glass of claret," accompanying his speech by pouring out a couple of bumpers, one of which my father swallowed with equal surpse and pleasure. "And how do you feel after that?" inquired the Doctor. "Quite a new man," answered the natient, "and ready for a second edition" But to that the Doctor gravely said. "No, no, you have done very well for a beginning, and must now be content to see me eat and drink, but to-morrow morning I shall call early, and if I find you as well as I expect and hope for, you shall at four o'clock not only repeat the dose, but increase quantity."

The patient, after a better night's rest than he had had for many months, rose wonderfully refreshed took two slices of beef and two bumpers of claret the second day, threw physic to the dogs, and from that time to the day of his death, which occurred more than half a century later, never new a day's illness.—The British Medical Journal, July 19, 1913.

A Medical Poet Laureate.

Many doctors have been poets; a thing is not unnatural 'considering that Apollo was a god of healing as well as leader of the Muses. The Times remarks that there have been few medical poets since

Goldsmith. We must not, however, forget those we have had. We are especially proud of Keats; Thomas Gordon Hake has been considered by some critics as one of the greatest of Victorian poets. and we may claim a share in Francis Thompson, though he never finished his studies. But this is the first time, we believe, that the bays of the official poet of the Court and of the nation have been placed on the brows of a physician. Mr. Robert Bridges, whose appointment as Poet Laureate has just been approved by the King. was a practising doctor for several years. Born in 1844 and educated at Eton and Oxford, he studied medicine at St. Bartholomew's, and took the degree of Bachelor of Medicine at his university in 1874, and was elected a Fellow of the Royal College of Physicians of London in 1900. He was Assistant Physician to the Children's Hospital, Great Ormond Street and Casualty Physician to St. Bartholomew's Hospital. He retired from practice in 1882, and has since devoted himself to poetry. His productions are cast in a severely classical form, the beauty of which can be adequately appreciated only by persons of the highest culture. Dr. Bridges would probably say with Wordsworth, one of his predecessors in the post of laureate, "Meet audience let me have though few." His poetry is warmly admired by the most competent judges. has not courted popularity. This year, for the first time, we believe, a collected edition of his poems has been published, and this will serve to make his work known to many whom it has not yet reached. All lovers of true poetry must delight in his perfect artistry. The profession will fully join in the general expressions of approval with which the appointment has been received. -The British Medical Journal, July 19, 1913.

The Petrol Haze of the Streets.

Attention may be drawn to the increasing murkings of the atmosphere of the streets arising from the incomplete burning of the petrol in the motor engine. As most of the vehicles in the metropolis are now propelled by motor, the nuisance is rapidly increasing, and it will do so until the facilities of combusion in the motor engine are improved. In stagnant conditions of weather, as on a fine sunny day or during a windless drizzle of rain, quite a baze of petrol fumes accumulates, which is very unpleasant to the pedestrian. Such an atmosphere is, of course, inimical to healthy conditions. Unburnt petrol or partially burnt oil is fre-

quently, present in notable quantity which is not favourable to healthy respiration, and a suspicion has been entertained that the presence of so much oil in the air disturbs the protective qualities of paint. Modern traffic has, in fact, introduced a totally new condition of things in regard to the state of the air in the streets, and it will not to be surprising if in the long run mischief in more than one direction comes to be traced to the acrid fumes which are accompanying the motor traffic. We anticipated some years ago that the contamination of the streets would pass from a purely physiological kind to one of a chemical nature as we discontinued horse traffic in favour of motor traffic. That has practically come to pass. We have to deal now with the products of the imperfect combustion of a hydrocarbon, whereas formerly the offences of street traffic arose mainly out of animal products. To an extent this latter pollution was dealt with satisfactorily by our sanitary authorities, but little success appears to have attended any attempt to suppress the production of motor fumes. It is, at all events common enough to see motor vehicles discharging into the streets from their exhaust tube a succession of rapid puffs of smoke with an evil smell. In the case of modern motor traffic the remedy lies in prevention by the perfection of the machine, or in the retention of a driver qualified to control the working of his combustion engine. In the case of horse traffic the evil could not be prevented, but the best measures were taken to minimise it. From a chemical point of view it would not be surprising if analyses of the air of London streets came to show in terms of carbonic acid gas, hydrocarbons, and probably carbon monoxide, a much worse state of affairs than existed when the horse was exclusively used for vehicular traffic. Improvements have, however, manifestly been made during the past few years in the engines of the motor-car. and we may hope that soon they will be rendered practically fumeless, which will imply a more economical use of fuel in addition to the suppression of an obvious nuisance.—The Lancet, July 19. 1913.

Beri-Beri in Siam.

The Siamese, like other nations in the Far East in whose dietary white rice bulks largely, have suffered considerably of late years from beri-beri. In Bangkok, the capital, with a population of half a million, there have been 1,278 deaths ascribed to the disease during

the 24 years ended March 31st, 1912, As the suggestion had also been made that possibly Siam rice possessed special beri-beri producing qualities. the Ministry of Local Government decided to institute an official inquiry into the matter, and Dr. H. Campbell Highet, principal medical officer of health of Bangkok, was instructed to conduct the investigation, assisted by members of his scientific staff. His report has now been published, and it confirms the conclusions generally arrived at by Fraser and Stanton, as well as by other experts in the Malay Peninsula and elsewhere, and which we have from time to time reported in the columns of The Lancet. Dr. Highet and his colleagues by their experiments demonstrated that Siam rice. when not over-milled, compares very favourably with rice from other places, such as Rangoon and Saigon, and that, a beri-beri preventing rice can be prepared from Siam "padi" either by hand or steam mill and without the padi being previously parquiled. The phosphorus content of a rice should not be less than 4 per cent, and this should be taken as the indicator of the safety or otherwise of the rice. view of the overwhelming evidence incriminating over-milled rice in connexion with beri-beri, some reformers have strongly urged that the law should interfere to prohibit the sale of this rice which has by milling been deprived of certain elements necessary for normal nutrition, but Dr. Highet expresses the opinion that, for the present at least, legislation in that direction in Siam is not advisable, more especially as it is not yet admitted what the actual substance is, the removal of which from the exterior of the rice grain by the process of milling leads to the development of beri-beri in the consumers of such rice. Meanwhile, the use of white, over-milled rice has been prohibited in the Siamese navy and in all the Government institutions, including asylums and prisons, as well as among the provincial gendarmery, a force which comprises 9,000 men. The result of this prohibition has been the almost complete disappearance of beri-beri from these various bodies; and were the Siamese army to follow suit the disease would, Dr. Highet says, be practically extinguished from the whole of the public service of the country. As regards the general population which has come to prefer the white rice and to reject any that is not well milled and polished, it is hoped that in time the force of education of the people in matters of diet and as to the danger arising from the consumption of rice deprived of some of its essential constituents will lead to an altered attitude and to the complete disappearance ultimately of the malady from Siam. -The Lancet, July 26, 1913.

Gleanings from Contemporary Literature.

THE ACTION OF GLONOIN.

By Dr. VEIT MEYER,

Acquaintance with our materia medica is the vital point of all homosopathic knowledge. It is, therefore, greatly to be lamented that so many of our younger homoeopathists regard this as a bagatelle of which it is impossible and not worth while to make a deep study; it is a pity that these colleagues should be still held under the influence of the pestilential vapor of skepticism and objectivity, which they have inhaled in the pathologico-anatomical hospitals; and instead of making their attainments in pathology and diagnosis available for the development of homosopathy. regard the former as the most important requisite for the practitioner and consider Therapeutics, on the other hand, as a sort of contingent accessory; for which reason too they seem to be content with a knowledge of some of the most obvious and most frequently encountered properties of aconite, bell., Puls., etc., without concerning themselves about the peculiar treasures of our materia medica. Against such a treatment of homosopathy, we must protest again and again until a reform is effected. But in regard to our materia medica, we older homosopathists are not unite clear of reproach. We do not devote industry enough to it and we allow many a grain of gold to lie in it unsought and unused. especially deserve this reproach with reference to the newer provings, amoung which unquestionably those of Hering take first rank. What does it profit, if we express in words our admiration of the industry and devotion of the provers instead of testifying our thanks by deeds, by verifications at the bedside! There lies before us a large volume of new provings, and how little have we as yet availed ourselves of them? Had not one of our own most skilfull students of materia medica, Wolf, in, Berlin, called attention in so eloquent and convincing a manner to the practical value of apis mellifica, who knows whether this widely acting and inestimable remedy might not still be lying quietly in its grave along with the rest? It is all the more incumbent upon us to make ourselves familiar with Hering's provings because they avoid, as much as possible, the deficiencies that have been charged the provings of Hahnemaun (the failure to give the day book, the size of doses, etc.,) and in the schema of symptoms many changes have been introduced which facilitate the search for any special symptom.

If we carefully read the individual provings and the pathognomonic effects of glouoin, we shall have no great difficulty in apprehending the complete picture of its action upon the human organism. This may be depicted in its general features in a very few words. It is in fact a hypercemia in some parts very turbulent, or an active congestion of the organs which lie above the diaphragm. Its primary action, which

very speedily manifest, consists in the excitement of a storm in the vascular system. The blood is driven to the upper parts of the body with greater rapidity and increased force, the capillaries are overtilled and distended, the reflux of the blood is impeded and so there arises a hyperæmic condition of the first degree. It is true the glonion congestion is rather fugitive in its character and short in duration, that is to sav. we soon see the increased vascular activity returned to its normal grade and so the congestive symptoms disappear again, but nevertheless the glonoin-hyperæmia is not only accompanied but also followed by all those symptoms which are peculiar to congestions that depend on other causes. Thus we find connected with it, loss of consciousness, syncope, increased warmth and abnormal sensations, heaviness, fullness, oppression and pains of the most various character. As sequelæ attending the reaction, we have in this case, as after hyperæmia depending upon other causes, relaxation of muscular tone, lassitude, which, as already said, may amount even to syncope, trembling, indications of spasm and finally a paretic condition. Even the mucous membranes are affected by this hypercemia as is shown, at first, by their abnormal dryness and subsequently by increased secretion. The same is true of the alimentary tract although its functions are involved to a less extent. The action does not go so far, it is true, as to produce hæmorrhages and exudations, but it cannot be doubted that, by a longer continued use of the remedy and a longer maintenance of the congestion produced by it, these phenomena would be induced.

Let us now seek to fill up this general outline of the effects of glonoin by its special characteristic phenomena, and to discover the peculiarities which mark the hyperæmia of glonoin. Inasmuch, however, as the circumspect physician makes it his first business to discover the focus and primary seat of the disease, so must we, if we are striving to get a clear insight into the pathological action of any remedial agent, first of all seek to discover what organs are first affected by its remedial power. If we do this now, we shall find that glonoin attacks first and by preference the central organ of the circulation -the heart-and from this point forth, its other effects are developed in stormy haste.

This primary attack then manifests itself, first, by a painful feeling of fullness and constriction in the cardiac region, which sometimes extends to the throat; simultaneously with which the pulse decreases in frequency. Soon however comes a feeling of heat in the heart, it is freed from its condition of spasmodic constriction, its activity is increased, the impulse of the heart is perceived by means of the stethoscope to be loud. stronger and irregular, indeed it is often so violent that it may be heard through the clothing. Of course, this increased force of circulation is observable in the larger vessels and throbbing of the carotids and temporal arteries and distension of the jugular veins are distinctly visible. The pulse corresponds to the above symptoms; it increases rapidly in Frequency and fullness so that it sometimes leaps from 60 to 120 beats;

only in now and then a single case is an alternation between slowness and frequency of the pulse remarked; sometimes the pulsations irregular or intermittent; in rare instances the pulse is dicrotic and thready. The violent pulsation is not confined to the arteries which are visible. It is felt in the neck, 'the ends of the fingers and even through the whole body, which fact makes the frequent feeling of anxiety and restlessness easy to comprehend.

Along with this vascular storm, certain painful sensations exist in the heart itself, which are described sometimes as extending through to the supra scapular muscle. But these are hardly noteworthy in comparison with the pains which glonoin produces in the head. Very soon after the beginning of this vascular excitement, the congestion of the brain manifests itself.

A feeling of fullness and heaviness, if from a weight and which extends as far as the eyes and ears, is very soon experienced. Then comes a feeling, as if all the blood in the body had ascended to, the head, as if the head were constricted by a band, as if something distended the brain in all directions, as if the head were too long and the cranium too small, as if the head would burst, as if the brain itself moved when the head is shaken, and as if warm water were trickling down the forehead. At the same time there is a constant heat of the face and, along with either painful or painless throbbing, the head is confused as if from drunkenness.

Among the varieties of pain in the head, squeezing and pressure are the most prominent and most frequent, and this sensation of pressure has the following peculiarity, that its direction is, for the most, from below upwards and from within outwards. In addition to the pressing pain, others are observed though in a less degree and less frequently, such as sticking, cutting, jerking, soreness and a bruised sensation in the head, and among these the feeling of soreness appears most frequently. In one prover it was so severe that he feared to move his head with any considerable freedom, because motion produced a feeling as though his head would fall in pieces.

All of these varieties of pain, especially the pressing and squeezing, may reach so excessive a severity, as to bring the provers to a state of desperation, and when the pressive pain is in the occiput to cause failure of the senses. Indeed the severity of the pains sometimes causes syncope and loss of consciousness with sweat.

The location of these head-pains is generally the forehead, often over only one eye, but not infrequently also in the temples, vertex and occiput. Sometimes the pain begins in the occiput and proceeds thence to the vertex and forehead, so that several provers have remarked a kind of wave-like ascending of the blood from the heart through the nape of the neck into the head.

Among the concomitant phenomena of the headaches, we must only special attention to the vertigo which sometimes comes after the headaches.

but is most apt to arise on stooping, shaking the head or judining it backwards or when stepping into the open air (?) and then may be compared with the sensation which is sometimes experienced when we first step ashore after a long journey in a boat. The headache is accompanied by general heat or by heat of the face only, accelerated and hard pulse which is often felt in the head. Nor are even the nausea and vomiting which not infrequently attend severe cephalagia wanting in these cases.

In the eyes a feeling of heat and confusion is noticed; they become injected and profrude, the pupils being dilated, the lower lids are reddened, puffed and have sometimes a darkened appearance, or a blue ring under them. The eye itself is unsteady and trembles, occasionally it is staring. Sparks and flashes of light, or else a cloud appear before the eyes and affect the powers of vision. Heaviness accompany the above described phenomena.

The external ear becomes redder than usual and the congestion of blood in the part induces a feeling of the sticking. A further consequence of the congestion of the organ of hearing is a buzzing, ringing, hissing, a feeling of fullness and obstruction in the ears, which may also give rise to a certain degree of deafness.

The congestion extends semetimes even into the nose as is shown by the sensations of twitching pains and of fullness in that organ.

In the teeth, a painful pulsation is experienced, and in the malar bones and maxillæ a more indefinite or twitching pain with a feeling of Similiar sensations are experienced in the nape of the neck. stiffness.

Inasmuch as the central organ of the circulation is first and most of all affected by the action of glouoin it is not to be wondered at that at the same time with the headache or shortly after it, the thoracic organs should be drawn into sympathy. A feeling of disquiet, of oppression of the chest and of constriction as if with chains, superficial and accelerated respiration, dyspnæa with disposition to deep inspiration and sighing. and here and there sticking pains in the chest are among the symptoms of glouoin.

The symptoms already enumerated bear the distinct impress of hyperæmia, but the circumstances and conditions under which the head affectious are aggravated or ameliorated furnish additional evidence of the purely, congestive character of the action of glonoin.

. The headache is aggravated by moving and shaking the head, with this peculiarity that it is aggravated not by violent, but rather by moderate and gentle shaking; also by stooping; by going up and down stairs when step is felt like a shock in the head; also by long and steadfastly looking at an object, by writing, reading, mental exertion, tobacco, smoking after being overheated, and after dinner, finally, according to an observation of Hering upon himself, it is worse after an expiration, especially if the following inspiration be delayed.

On the other hand the glonoin headache is relieved by rest, by lying down, by sleep, in the open air and by compressing the head so that one prover had a band tied tightly about his head for the relief of an exceedingly severe pain.

From all of these symptoms it is very clear that the action of the drug in question consists in an increased propulsion of the blood, especially towards the organs which lie above the diaphragm.

In the sequelæ moreover, a true picture is developed of such phenomena as are wont to manifet themselves after violent or long continued congestion. If, for example, the glonoin-hyperæmia is of long duration or if it is kept by repeated doses of the drug, the mucous membranes participate in the morbid affection. Coryza appears: the secretion of saliva and of mucus is increased; a feeling of heat and burning in the fauces arises, and at last there is clear evidence that the whole digestive tract is involved. The tongue, has a white coat; it appears large and somewhat swollen; the papillæ project as if raw, with a biting and sticking pain. Nausea and retching set in, with pressing, gnawing and a sensation of emptiness and soreness and restlessness in the stomach, stickings in the hypochondria cutting, pinching, and rumbling in the intestines, flatulent distension and for the most a thin stool. The secretion of urine is increased.

If now we take a wider survey we perceive that the nervous system is secondarily affected. Despite the fact that the glonoin-hyperæmia is rather of fugitive character, and is easily removed by resolution so that the disturbances are again set at rest by a speedy reflux of the blood from the overfilled organs, nevertheless many facts indicate that, whether in consequence of the pressure exercised upon the brain and medulla oblongata by the congestion, or by reason of the anæmia of other parts which is a correlative result of the hypermæmia of the congested organs, the nervous system is disturbed in many of its functions.

We find, accordingly, in the nervous sphere of sensibility pains in the whole spine, in the sacral region, in the shoulders whence the pain extends into the arms and occurs with special violence in the dorsum of the hand in the metacarpus of the middle finger; also pains in both elbows in the ulnar nerves, in the ulnar side of the wrist joint, in the inner side of the right middle finger from the metacarpus outwards, on the lateral parts of the knees under the patella, in the calf, in the heel and along the sciatic nerve.

But the consequences of the hypersemia which has taken place, are much more distinctly pronounced in the region of the motory nervous system. As after every strong excitement a corresponding and opposite creation followed, so is it here, also. Soon after the hypersemia has reached its climax and the distended vessels begin to empty themselves a sense of exhaustion and weakness begins to be felt throughout the whole body, which seems somewhat like the sensation after a relient

fright; but it is especially the joints of the extremities themselves which are seized with a kind of weakness and trembling; the legs and knees refuse their office and give way; the limbs totter; the hip and knee joints crack in walking. But this feeling of weakness and want of power are not all. There are not lacking many indications of the beginning of a paretic condition.—A creeping sensation is felt, like the streaming of electricity through the whole body, an unpleasant nervous feeling of disquiet in the arms and heads requiring them to be kept continually moving and turning, heaviness in the arms, which when they are hanging down cannot be lifted up again above the head, numbness and weight in the arms which really render it difficult to move them, numbness and feeling of fatigue in the left arm with stiffness of middle finger-joint, numbness of the left leg and thigh, and finally when prover is sitting the legs easily "go to sleep."

The above would serve as a condensed picture of the action of glonoin upon the healthy human body in so far as this action has as yet been investigated. Assuredly this remedy of a repeated and more extended proving to which Constantine Hering has himself invited us for, it may with the greatest probability be assumed that the sphere of its action would prove to be much more extensive than that with which we are at present acquainted. Meanwhile, however, on the basis of our present knowledge of it, its clinical valuation must be by no means a very limited one.

If we enquire now, in what morbid conditions glonoin may be administered in accordance with the homoeopathic principal, congestive headache of a severe grade would certainly take first rank, such headache as frequently ensues after violent mental or emotional excitement, such as fright, anger, etc., the first hurtful influences of which appear likewise to be exerted upon the nerves which control the functions of the heart.

We should also be inclined at least to test its efficacy in those cases in which hyperaemia (attended with pain) of the upper organs of the body depends upon a modification of the function of the heart resulting from internal pathological causes. Even in congestions caused by hypertrophy of the heart, the administration of glonoin might be recommended at least by way of experiment: especially since we have a slight indication for such a use of it in symptoms 636 of Hering's proving, viz.: "636. In the evening, after lying down, an anxious feeling in the region of the heart, with throbbing, purring noise and intermittent pulse; he must lie with the head elevated; intolerable when lying on left side, better when lying on the right side; after getting up and walking about, it passes away. The same sensations after dinner when leaning against the chair for three months." The long duration, as well as the capcomitants of this symptom, among which the purring noise may be specified in particular, justify the assumption that in this case, an important organic lesion of the heart had already previously taken place.

Furthermore some essays might be made with glonoin in cases of pericarditis, when with these are associated congestive conditions and when our already well proved and trusty remedies have left us in the lurch, even if it were only in the expectation of overcoming certain single symptoms, for, if we hold ourselves strictly to the physiological results of provings, the cure of inflammations does not seem to lie within the sphere of the action of glonoin.

In the same symptomatic way it might be tried also in cases of encephalitis and hydrocephalus acutus as well as in the so-called cerebral typhus, In cases of sunstroke it has already, according to several communications from America, accomplished remarkable results.

But I regard glonoin as of the greatest importance, in a therapeutic point of view, in cases of threatening cerebral apoplexy. When the following symptoms appear as precursors of that affection, viz.: violent headache, fugitive reduess and heat of the face or head, exaltation or depression of spirit, feeling of anxiety or distress in the chest, violent palpitation of the arteries of the head and neck, vertigo and confusion of the head, sparks, flashes of light and a cloud before the eyes, humming in the ears, general lassitude and heaviness of the limbs, restless sleep, and frightful dreams, etc., etc., -- we should not, in such cases delay having recourse to the powerful action of glonoin, for it is possible that we may still succeed in calming the storm before a vessel has given way and apoplexy has ensued. I would therefore recommend most earnestly a trial of this remedy in such like cases of threatening apoplexy. In such besays, however, most especial attention must be directed to the size of the dose, which should be such as to obviate any chance of a primary action. For too large a dose might easily increase to a still greater extent the tension of the vessels, and this, even though it should last the shortest possible time, might yet bring about a result altogether contrary to our expectations, for in such cases the question is often one of instants of time. But, how far glonom may exert a curative action, when an extravasation of blood has already taken place must for the present be regarded as an open question. Assuredly the proving contains, as we have seen, no small number of symptoms which bear a certain, resemblance to the conditions which follows an apoplexy, but these are only faint traces and intimations. Nevertheless we may not too decidedly depreciate their value, for we must not forget that every physiological proving has its . limits, and these cannot and ought not be transgressed without, enduring injurgeto the provers.

We have nevertheless, assume at present, with tolerable certainty that golnein will wrify its surative power in relation to all those conditions of debility and paretic phenomena of which we took a comprehensive view, when treating of its action on the motory nervous system.

Whether, on the other hand, it be likely to remier any service in service in

rather leave to clinical experience, inasmuch as the symptoms which seem to bear on this point, to wit; "convulsions, especially on the left side, with outstreched fingers"—"falling with loss of consciousness with congestion of head or heart, face first pale and then red"—and, "falling with loss of consciousness and jerkings and frothing at the mouth after alternation of palpitation and cerebral congestion"—were observed only as curative symptoms of glonoin on two patients. It likewise remains a question, how much aid glonoin is likely to afford in certain mental disorders.

More than this we may not venture to deduce from the physiological proving that lies before us if we would not betake ourselves to the region of the hypothetical. But I am of the opinion that if glonoin makes good its promises only in the affections already named, we possess in it a most precious remedy for which our heartiest thanks are due to our colleague—Dr. Hering.

In conclusion. I take leave to call attention in few words to certain shvious points of differential diagnosis between glonoin and two old and well approved remedies of our materia medica-I mean aconite and belladonna. It may not be denied that both of these remedies present a great similarity to glonoin in its chief action, for both produce, as is. well known, a high grade of hyperæmia, which, when superficially regarded, seems hardly distinguishable in its elements, course and sequelae from the congestion produced by glonoin. On a more attentive consideration, however, the differences are easily perceived. While, for example, as we have already shown, glonoin makes its attack only upon the central organ of the circulation, or, to speak physiologically, upon the motory nerves of the heart, aconite and belladonna attack the ganglionic system and exert their action in an especial manner upon the whole vaso-It naturally follows that they likewise, by motory nervous system. such action, produce violent hyperæmia, but aside from the fact that these present themselves with different phenomena, the description of which would lead us too far from our purpose, they differ in other important respects from the glonoin-hyperemia. As we have a definite direction marked out for them and their peculiar rendezvous is the head, whereas the congestion of aconite and belladonna may establish itself in alongst every organ. But even if the latter takes up its position in the head, clearly marked difference is discernible. The glonoin affection is of more fugitive and superficial nature. That of aconite and especially that of belladonna is of more lasting and intense character. Notwithstanding the fact that the glonoin pains, when they are first experienced, are of a more violent and tormenting character than is generally the case with aconite and belladonua, yet the concomitant phenomena show that the onslaught of glonoin is much the lighter and less energetic. It would seem to me then as though the congestion produced by glonoin might perhaps affect only the vessels of the external head or at most those of he maninger, while both the other remedies affect the vasa cerebri and

the brain itself. We therefore see so frequently under the two latter remedies, as concomitants of the congestions, delirium, hallucinations, coma, etc., and on this account the sequelæ of the hyperæmin of aconite and belladonna are of greater gravity, viz.: hemorrhages, extravasations, real paralysis, spasms and convulsions. But of all this train of phenomena, we find under glonoin nothing at all, or as already remarked, only slight traces of beginnings

The most essential distinction, however, seems to me to be this, that the hypersemia of acouste and belladonna seems to require only one step farther to result in inflammation, and that straightway the whole arterial system is brought into a condition of excitement, whereas, on the other hand, the physiological proving of glonoin shows not the slightest trace of inflammation or fever. We might therefore briefly express ourselves as follows: Whereas glonoin in comparison with the two other remedies, exerts a more local and fugitive influence, the action of acouste and belladonna is of a more intense character, masmuch as it speedily brings into sympathy the whole vascular and nervous system and consequently far outstrips glonoin in its extent and consequences—The North American's Journal of Homeopathy, July, 1913.

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